



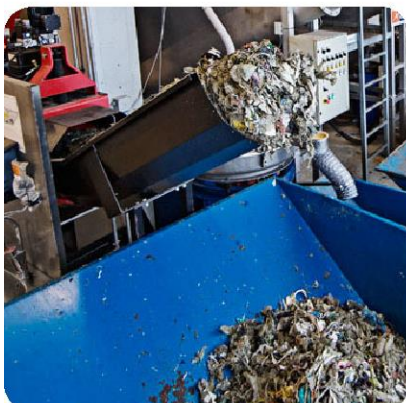
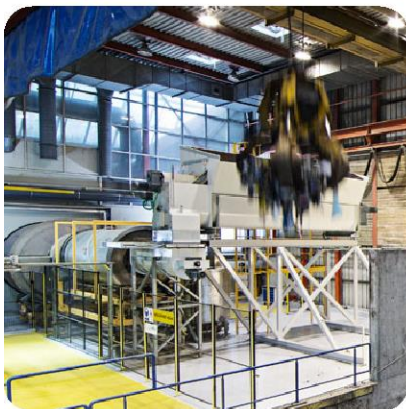
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Appendix F: Application Site

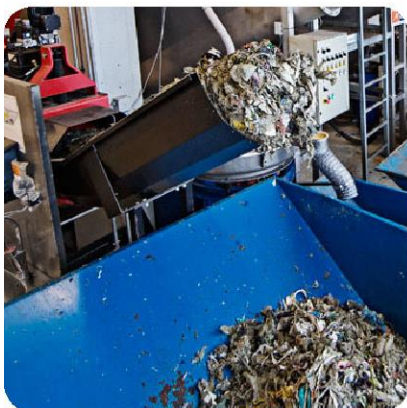
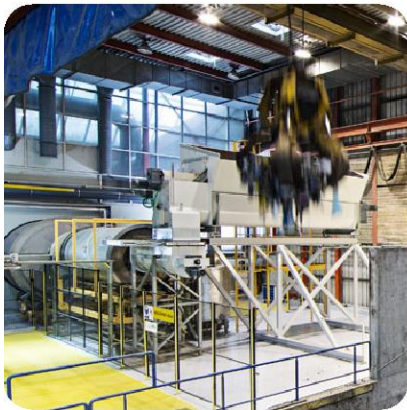
Condition Report









Application Site Condition Report

REnescience Northwich



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Quality Management

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2	27/11/2015	Final	Client review	

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Executive Summary

This document is the Application Site Condition Report (ASCR) for the proposed REnescience Northwich facility at Lostock Gralam, Cheshire, submitted as part of an application to the Environment Agency for an Environmental Permit.

An appraisal of the proposed development site has been carried out and data relating to the surrounding areas have been reviewed in order to describe the conditions of the site, and in particular, to identify substances in, on or under the land that could constitute a pollution risk to the land.

Substances to be stored on site have been identified and are described in detail within the main documentation to this permit application. Where they could pose a potential pollution risk, suitable mitigation measures will be implemented at the operational phase to protect the land and groundwater from contamination.

This report describes the state of the land prior to the commencement of authorised operations to ensure that the land can be returned to the same state on permit surrender.

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Acronyms

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1 Introduction

Background

- 1.1 An Application Site Condition Report (ASCR) is required for any facility regulated by the Environment Agency (EA) under the Environmental Permitting (England and Wales) Regulations 2010 (EPR) (as amended) where there may be a significant risk to land or groundwater, or where one is necessary to satisfy the requirements of the Waste Framework Directive.
- 1.2 Records for the proposed site of the REnescience Northwich (REnescience) facility and surrounding area have been reviewed in order to describe the present condition of the site.
- 1.3 This site condition report (SCR) includes:
- i) a review of available relevant documentation;
 - ii) a review of the operational aspects of the proposed REnescience facility; and
 - iii) a review of the environmental setting to assess the sensitivity of the surrounding environment to contamination.
- 1.4 This report has been prepared in accordance with EA guidance on the preparation of an SCR [1].
- 1.5 RPS has prepared this report based on information and data available at the time of its preparation. The report will be maintained and reviewed by DONG Energy REnescience Northwich O&M Limited in the light of significant additional information becoming available as and when it is practical during permitted operation.

Site and Surrounding Area

- 1.6 The proposed development site is located to the western side of the larger 'Lostock Works' industrial site, and is approximately 3.7 hectares in size. It formerly housed a chlorine manufacturing plant, which ceased operation in 2001 and was decommissioned (demolished to slab level with all process equipment removed) by 2013. Prior to use for chlorine manufacturing, the site housed the Lostock Bleach Works.
- 1.7 The proposed development site is set in a predominantly industrial area of existing and former chemical industry works operated currently by Tata Chemicals, INEOS and Solvay, and previously by others, including ICI, Brunner Mond and INEOS Chlor.
- 1.8 In the area immediately around the site are:
- to the north: rail lines and sidings, open space/ponds, warehouses/commercial development and Manchester Road;
 - to the east: Solvay chemical works, Tata Chemicals chemical works, INEOS brine purification plant and the Trent and Mersey Canal;
 - to the west: a cleared brownfield site and rail siding;

- to the south: Wade Brook, a rail siding and conveyor structure, ECO-Option (formerly Edelchemie) chemical recycling facility, and Griffiths Park.

1.9 The site is located in a larger area that has been used for industry and chemical manufacture for nearly 200 years. Soda ash and bleaching powder production commenced in the Lostock Works area in the late 18th century and much of the surrounding land, particularly to the south west and east has been used for lime waste disposal associated with soda ash manufacture. During the First World War it is understood that ammonium nitrate production for use in explosives was undertaken at the soda works. Later, during the Second World War, a range of products were made on the Lostock Works site at the request of the Ministry of Supply, including chlorine, mono chlor-benzene and carbon tetrachloride.

Details of Proposed Facility

- 1.10 A detailed description of the proposed REnescience facility is provided in the main application document and summarised below.
- 1.11 The facility will utilise the 'REnescience' enzymatic waste treatment process to produce bioliquid from municipal solid waste and commercial and industrial (C&I) wastes, including fines. The bioliquid will undergo anaerobic digestion to create biogas for combustion in gas engines producing electricity. Some source segregated wastes may be delivered and handled within the waste transfer station operation where they are simply bulked for onward transfer.
- 1.12 The site will receive and treat up to 144,000 tonnes per annum of waste, which will be stored in a designated building before transferred to the conveyor system to start the process.
- 1.13 The plant will generate up to around 6.3 MWe gross of renewable electricity in on-site reciprocating gas engines, of which at least 5 MWe will be exported to the national grid or by private wire to local industrial consumers.
- 1.14 Materials that form the waste input and other raw materials required for the various processes that will be stored on site will be:
- waste input – municipal solid waste, commercial and industrial waste, fines;
 - enzyme;
 - polymer
 - pH dosing reagent (sodium hydroxide/calcium hydroxide)
 - water;
 - fuel oil;
 - lubricating oil; and
 - hydraulic oil.

1.15 The installation will include:

- a main building accommodating the offices, utility areas and control room, waste unloading hall with crane, bioreactors (in which the enzymatic treatment takes place) and mechanical sorting stage;
- covered external storage for recovered materials in containers or in plastic-wrapped bales;
- three sided covered storage area underlain by impermeable concrete for the de-watered digestate ('compost-like output', CLO) storage;
- anaerobic digestion tanks and associated pipework, pumps, degritter;
- waste transfer station operation;
- a start-up boiler;
- water treatment plant (using an evaporator unit);
- gas engine containers;
- electrical transformers;
- stack; and
- backup gas flare.

1.16 Reagents, fuel and site maintenance oils will be stored in appropriate containers and banded to minimise the risk of spillage.

1.17 The main waste residues produced by the REnescience facility will be:

- digestate, which will be de-watered to create CLO that will be suitable for use in land restoration;
- recovered recyclable materials: ferrous and non-ferrous metal and solid plastics (e.g. plastic bottles);
- other recovered materials such as film plastics, textiles and remaining cardboard, which together form a refuse-derived fuel (RDF) or solid recovered fuel (SRF) that can be used for energy generation; and
- recovered inert materials such as gravel and glass cullet/sand that can be re-used as aggregates.

1.18 These waste materials will remain in storage prior to being transported for their intended use or appropriate disposal. Figure 5 in Appendix B to the main application document indicates material storage locations.

Scope of Site Condition Report

1.19 The SCR includes all operational and process areas for the REnescience facility as indicated on the site plan (Figure 2 in Appendix B of main application). As this is an ASCR, details of pollution incidents that have occurred and subsequent investigations, inspection records and operational

phase monitoring results during operation of the REnescience facility are not included. This information will be included in the SCR by the operator during the operational phase.

- 1.20 Measures that will be put in place to ensure that operation of the REnescience facility does not give rise to land or groundwater pollution are described in the main permit application document.
- 1.21 The operator will implement an environmental management system (EMS) prior to commencement of permitted operations at the facility. The management, monitoring and reporting requirements of the permit will be complied with, which will ensure that any environmental protection elements are implemented. Further details on the proposed EMS are provided within Section 2 of the main application document.

2 Objectives of Site Condition Report

Objectives

- 2.1 The objectives of this ASCR are to:
- describe and record the condition of the land and groundwater at the time that the application for an Environmental Permit (EP) is submitted;
 - identify the environmental setting and land pollution history of the site; and
 - identify any activities that will be undertaken at the facility that may lead to pollution.
- 2.2 This ASCR provides a point of reference at the start of the operations under the permit so that, in the event of the permit being surrendered, a decision can be made as to whether there has been any additional contamination of the site during the operation of the plant, and action can be taken if necessary to ensure that the condition of the land and groundwater are in a 'satisfactory state' when an application to surrender the permit is made.
- 2.3 Following the issue of the permit, the operator shall ensure that management systems are in place to implement the operational phase of the SCR (Section 6) and that the necessary data are collected to demonstrate that the land is in a 'satisfactory state' should the permit need to be surrendered.
- 2.4 Section 7 of the SCR shall be completed by the operator upon permit surrender to demonstrate that a 'satisfactory state' has been achieved.

3 Application Site Condition Report

Site Details	
Name of the applicant	DONG Energy REnescience Northwich O&M Limited
Activity address	Lostock Works, Griffiths Road, Lostock Gralam, Cheshire, CW9 7ZR
National grid reference	SJ 67920 74201

Document reference and dates for Site Condition Report at permit application and surrender	JAS8407_ASCR_rev1_20151127
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Document references for site plans (including location and boundaries)	A site plan showing the installation boundary, as well as the layout of the site and storage areas are shown in Figures 2 and 5 of Appendix B of the main application. Figure 6 of Appendix B to the main application provides a plan of the proposed site drainage.
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Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none"> geology hydrogeology surface waters 	Details of the geology, hydrogeology, and hydrology are provided in Chapter 9 of the ES which can be found in Annex A. This includes the Envirocheck [®] Report, details of which are summarised in Section 4 of this ASCR.
Pollution history including: <ul style="list-style-type: none"> pollution incidents that may have affected land historical land-uses and associated contaminants any visual/olfactory evidence of existing contamination evidence of damage to pollution prevention measures 	<p>Details regarding pollution incidents in the vicinity of the proposed site are summarised in Section 4 of this ASCR.</p> <p>The Environcheck[®] Report (included within Annex A) lists no records of incidents resulting in spillages of hazardous substances within the proposed boundary.</p> <p>There have been twenty-five records of pollution incidents to controlled waters within 500 m of the site, with twenty-three classed as minor incidents and two classed as significant incidents.</p> <p>None of the pollution incidents have been reported to be within the site boundary.</p>
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	<p>Due to historical use of the site as a bleach works and chlorine plant, there is evidence for historic contamination to the site. A previous Phase II Site Investigation survey in 2009 identified contamination in the form of metals and trichloromethane.</p> <p>Details regarding historic contamination on the site can be</p>

Condition of the land at permit issue	
	<p>found within the Phase II Factual Report Lostock Chemicals Works Cheshire, Van Elle (2009), provided in Annex A to this report and summarised in Section 4 of this document.</p> <p>Further site investigation has been recommended to be undertaken prior to redevelopment to assess soil and groundwater contamination and assess the ground gas regime. This work is currently being progressed with results expected to be available in December 2015.</p>
Baseline soil and groundwater reference data	Details of baseline soil and groundwater reference data can be found within the appendices to Chapter 9 of the ES, which is provided as Annex A to this report.
Supporting information	<p>ES Appendix 9.A – Phase 1 Geo-Environmental Risk Assessment.</p> <p>ES Appendix 9.B – Van Elle 2009 Phase II Factual Report.</p>

Permitted activities	
Permitted activities	Details regarding permitted activities for the proposed site are provided in the main application.
Non-permitted activities undertaken	All activities on site will fall within the installation boundary.
Document references for: plan showing activity layout; and environmental risk assessment.	<p>Figure 1 in Appendix B to the main application indicates the location of the REnescience facility and surrounding area.</p> <p>An Environmental Risk Assessment has been undertaken in accordance with the Environment Agency’s H1 guidance. This is included within the supporting information to the main application document, Appendix C.</p>

4 Condition of the Land at Permit Issue

Site Setting and Sources of Desk Study Information

- 4.1 This section details the sources of desk study information searched in order to describe the condition of the land to be occupied by the REncscience Northwich facility, and in particular, to determine the potential for substances to be present in, on or under the land associated with present and past uses of the site and its surrounding areas that could constitute a pollution risk to the land.
- 4.2 A search was undertaken through the Envirocheck[®] database to obtain:
- information held by the EA regarding water abstractions and water discharge permits, waste disposal facilities and other prescribed processes at the site and within its immediate vicinity;
 - previous pollution incidents within a 1 km radius of the site;
 - information held by the British Geological Survey relating to geology and hydrogeology;
 - historical land maps; and
 - previous site investigation studies undertaken.
- 4.3 A copy of the Envirocheck[®] Report is included within ES Appendix 9.A – Phase 1 Geo-Environmental Risk Assessment, provided in Annex A to this report.

Environmental Consents, Licences, Authorisations, Permits and Designations for the Site and Surrounding Area

Water Discharge Permits and Abstraction Licences

- 4.4 Information provided by the EA indicates that there is a record of one active licensed groundwater abstraction (Table 4.1) and seven licensed surface water abstractions (Table 4.2) within 2km of the site.

Table 4.1: Groundwater Abstraction Licences

Owner of Abstraction	Type of Abstraction	Distance from Proposed Site
Daniel R Spibey	Not supplied	1,245m

Table 4.2: Surface Waters Abstraction Licence

Owner of abstraction	Type of Abstraction	Distance from Proposed Site
Brunner Mond (UK) Ltd	Not supplied	351m
ICI Limited Mond Division	Not supplied	357m
Ineos Enterprises Limited	Water may be abstracted from a single point	382m

Owner of abstraction	Type of Abstraction	Distance from Proposed Site
British Waterways Board	Not supplied	387m
Canal and River Trust	Water may be abstracted from a single point	394m
Daniel R Spibey	Not supplied	1245m
Mr C R Garton	Water may be abstracted from a river or stream reach, or a row of wellpoints	1,578m
H. Platt & Sons Ltd	Not supplied	1,745m

4.5 There are no records of potable water abstractions within 2km of the site. None of the surface water abstractions are situated directly downstream of the site.

Permitted Facilities

4.6 Table 4.3 summarises both historical and registered installations, landfill sites and other waste facility applications made to the EA or local authorities located within the immediate area of the facility. It includes details of the register status for each facility (active, superseded, revoked, modification, variation, transfer or not yet authorised). Data have been obtained from the Envirocheck[®] report (full details provided in Annex A).

4.7 There have been sixty-four permits issued within 1 km of the proposed site of the REnescience facility, operating under a number of permitting and regulatory regimes, including twenty-five registered licenced or known historic landfill sites and four waste treatment/transfer sites (three active and one superseded).

Table 4.3: Permitted Facilities

Permit Holder	Location	Environmental Regime	Status	Distance from the Proposed Site (m)
ICI Chemicals and Polymers Limited	I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire	Historic Landfill Site	Unknown	84
ICI Chemicals and Polymers Limited	I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire	Historic Landfill Site	Unknown	166
ICI Chemicals and Polymers Limited	I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire	Historic Landfill Site	Unknown	349
Northwich Resources Management Limited	Griffiths Road, Northwich, Cheshire	Historic Landfill Site	Unknown	531
Not Supplied	Lostock Graham, Northwich, Cheshire	Historic Landfill Site	Unknown	542
Imperial Chemical Industries Limited	Griffiths Road, Northwich, Cheshire	Historic Landfill Site	Unknown	548
Not Supplied	Lostock Graham, Northwich, Cheshire	Historic Landfill Site	Unknown	557

Permit Holder	Location	Environmental Regime	Status	Distance from the Proposed Site (m)
Cheshire County Council	Wincham Lane, Cheshire	Historic Landfill Site	Unknown	567
Not Supplied	Northwich	Historic Landfill Site	Unknown	648
Not Supplied	Lostock Graham, Northwich, Cheshire	Historic Landfill Site	Unknown	737
Not Supplied	Maiston, Northwich, Cheshire	Historic Landfill Site	Unknown	908
Edelchemie UK Ltd	Land At Brunner - Mond Works, Off Griffiths Road, Lostock, Northwich	Licensed Waste Management Facility (Locations)	Expired	329
Remedex Ltd	Wade Works, Lostock, Northwich, Cheshire	Licensed Waste Management Facility (Locations)	Active	540
Nelson Eric	Middlewich Road, Rudheath, Northwich, Cheshire	Licensed Waste Management Facility (Locations)	Active	617
AAA Skip Hire Ltd	Middlewich Road, Rudheath, Northwich, Cheshire	Licensed Waste Management Facility (Locations)	Transferred	633
Northwich Resource Management Ltd	Griffiths Road, Northwich, Cheshire	Licensed Waste Management Facility (Locations)	Modified	854
M Igoe Ltd	Shannon House, Wincham Avenue, Wincham Lane, Wincham, Cheshire	Licensed Waste Management Facility (Locations)	Modified	984
Not Given	ICI Lostock, Near Rudheath	Local Authority Recorded Landfill Sites	Not Supplied	80
Not Given	Manchester Road, Northwich, Cheshire	Local Authority Recorded Landfill Sites	Not Supplied	90
Not Given	Edward Street, Northwich, Cheshire	Local Authority Recorded Landfill Sites	Not Supplied	400
Not Given	Wade Street, Northwich, Cheshire	Local Authority Recorded Landfill Sites	Not Supplied	644
Not Given	Lostock Lime Beds, Northwich, Cheshire	Local Authority Recorded Landfill Sites	Not Supplied	668
Not Given	Chapel Street, Marston, Cheshire	Local Authority Recorded Landfill Sites	Not Supplied	890
Not Given	Ashton's & Nuemann's Flashes, Northwich, Cheshire	Local Authority Recorded Landfill Sites	Unknown	899
Not Given	Ashton Flashes, Northwich, Cheshire	Local Authority Recorded Landfill Sites	Not Supplied	909

Permit Holder	Location	Environmental Regime	Status	Distance from the Proposed Site (m)
ICI Chemicals and Polymers Limited	I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire	Registered Landfill Site	Active	80
ICI Chemicals and Polymers Limited	I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire	Registered Landfill Site	Active	160
ICI Chemicals and Polymers Limited	I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire	Registered Landfill Site	Active	240
Cheshire C.C.	Wincham Lane Land Reclamation, Northwich, Cheshire	Registered Landfill Site	Licensed lapsed	785
3 C Waste Ltd	Witton Landfill Site, (Ashton'S Flash), Leicester Street, Northwich, Cheshire	Registered Landfill Site	License lapsed	908
Cheshire C.C.	Witton Landfill Site, (Ashton's Flash), Leicester Street, Northwich, Cheshire	Registered Landfill Site	Superseded	908
E Nelson T/A Northwich Mini Skips	Rudheath Industrial Estate, 249 Middlewich Road, Rudheath, Northwich, Cheshire	Registered Waste Transfer Sites	Active	602
A S & Mrs Ashworth t/a Ash Contractors	Plot 13 Farmers Avenue, 249 Middlewich Road, Northwich, Cheshire	Registered Waste Transfer Sites	Active	602
I.C.I. Ltd	Griffiths Park, Lostock Works, Northwich, Cheshire	Registered Waste Treatment or Disposal Sites	Superseded	346
Northwich Resources Management Ltd	Ponds 1/2/3/4/5/6a/6b/7/8/9, Lostock, Northwich, Cheshire	Registered Waste Treatment or Disposal Sites	Active	854
Ineos Enterprises Ltd	Ethylene Plant, Lostock, Po Box 7, Lostock Works, Griffiths Road, Northwich	Control of Major Accident Hazards Sites (COMAH)	Active	292
Thor Specialities (UK) Ltd	Thor Specialities (UK) Ltd. Wincham Avenue, Wincham, Northwich, Cheshire	Control of Major Accident Hazards Sites (COMAH)	Active	628
BG Plc BG Transco	Holford, Northwich, Cheshire	Control of Major Accident Hazards Sites (COMAH)	Record Ceased To Be Supplied Under COMAH Regulations	646
G.Cross & Sons (Northwich) Ltd	Canal Side, Chapel Street, Wincham, Northwich, Cheshire	Control of Major Accident Hazards Sites (COMAH)	Active	804
ICI Chemicals & Polymers Ltd	Lostock Works, Lostock, Gralam, Cheshire	Notification of Installations Handling Hazardous Substances	Active	293

Permit Holder	Location	Environmental Regime	Status	Distance from the Proposed Site (m)
		(NIHHS)		
ICI Chemicals & Polymers Ltd	Po Box 7, Lostock, Northwich, Cheshire	Planning Hazardous Substance Consents	Active	342
Ineos Chlor	Chlorine Plant, Lostock Works, Lostock Gralam	Planning Hazardous Substance Consents	Withdrawn	388
Thor Specialities (UK) Ltd	Wincham Avenue, Wincham, Northwich	Planning Hazardous Substance Consents	Unknown	628
G Cross And Sons Ltd	Chapel Street, Wincham, Northwich	Planning Hazardous Substance Consents	Active	655
Brunner Mond (UK) Ltd	Lostock Site, Lostock Gralam, Northwich, Cheshire	Integrated Pollution Controls	Active	133
Ineos Enterprises Ltd	Electrode Coating Plant, Winnington, Northwich, Cheshire	Integrated Pollution Controls	Superseded	388
Ineos Chlor Ltd	Northwich Sites, Lostock, NORTHWICH, Cheshire	Integrated Pollution Controls	Revoked	463
Brunner Mond (UK) Ltd	Northwich Sites. Off Griffiths Road, Lostock, NORTHWICH, Cheshire	Integrated Pollution Controls	Revoked	463
Eco-Option (UK) Limited	Griffiths Road, Lostock Gralam, NORTHWICH, Cheshire	Integrated Pollution Prevention and Control	Active	259
Solvay Speciality Chemicals Ltd	Lostock Works, Works Lane, Northwich, Cheshire	Integrated Pollution Prevention and Control	Active	293
Tata Chemicals Europe Limited	Lostock Sodium Carbonate Manufacturing Site, Brunner Mond (UK) Ltd, Lostock Gralam,, Northwich, Cheshire	Integrated Pollution Prevention and Control	Superseded	309
EEW Energy From Waste UK Limited	Lostock Sustainable Energy Plant, Lostock Sustainable Energy Plant, Lostock Graham, Northwich, Cheshire	Integrated Pollution Prevention and Control	Active	354
Edelchemie UK Ltd	Griffiths Road, Land At Brunner-Mond Works, Griffiths Road, Lostock Gralam, Northwich, Cheshire	Integrated Pollution Prevention and Control	Superseded	455
Thor Specialities UK Ltd	Wincham Avenue, Wincham, Northwich, Cheshire	Integrated Pollution Prevention and Control	Active	627

Permit Holder	Location	Environmental Regime	Status	Distance from the Proposed Site (m)
Euroroof Ltd	Denton Drive, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Revoked	540
Motorbody Care (Northwich) Ltd	Denton Drive, Northwich, Cheshire,	Local Authority Pollution Prevention and Controls	Active	571
Middlewich Road Service Station	Middlewich Road, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Revoked	668
Rudheath Mot Centre	Hargreaves Road, RUDHEATH	Local Authority Pollution Prevention and Controls	Active	670
Northwest Truck Engineering	Griffiths Road, Lostock Gralam, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Revoked	689
New Platt Motors	Chapel Street, Wincham Park, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Revoked	694
Tesco Stored Ltd	Manchester Road, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Active	704
A & B Autos	Unit 2 Hargreaves Road, RUDHEATH	Local Authority Pollution Prevention and Controls	Active	718
Express Asphalt	Wincham Avenue, off Wincham lane, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Active	867
Tarmac Topmix Ltd	Wincham Lane, Wincham, Northwich, Cheshire	Local Authority Pollution Prevention and Controls	Active	891

Statutory Designated Sites Within 1 km

4.8 The site itself is not covered by any statutory nature conservation designations; however, the Witton Lime Beds SSSI and Plumley Lime Beds SSSI are located around 1.5 km and 2.5 km from the site, to the northwest and east, respectively.

Geology

4.9 The British Geological Survey mapping (1:50,000) indicates the presence of the Northwich Halite Formation (formerly Lower Keuper Saliferous beds), overlain with Boulder Clay with sand lenses (Till – Diamicton) to the west of the site. Sidmouth Mudstone is present where it sub-crops along the eastern boundary of the site and Bollin Mudstone is also present at depth beneath the Northwich Halite Formation. The King Street fault transects the east of the site in a north/south orientation.

4.10 Made Ground is present across the site as a result of historical land uses and associated earthworks including the presence of artificial embankments/ land raising, the former tip in the

western area of the site (as indicated by the 1996 ICI report reviewed within the Phase 1 Geo-environmental report, Annex A) and past construction/demolition activities.

Hydrogeology

- 4.11 The Alluvium deposits (present on the southern boundary) are classified as a Secondary A Aquifer. These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.
- 4.12 The Till – Diamicton and Northwich Halite Formation are classified as Unproductive Strata. These formations have a low permeability and have negligible significance for water supply or base flow. The Sidmouth Mudstone and Bollin Mudstone are Secondary B Aquifers. These formations are generally formed of lower permeability layers, which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.
- 4.13 There is potential for shallow perched groundwater to be present in the Alluvium Deposits, which may be in hydraulic continuity with Wade Brook. There is therefore the potential for lateral migration of contamination (if present) within the Alluvium to Wade Brook located 15 m to the south of the site. The presence of low permeability Till – Diamicton across the majority of the site is likely to limit the vertical and lateral migration of shallow groundwater and associated contaminants thereby providing protection to the bedrock. Groundwater is expected to depth within the bedrock.
- 4.14 According to EA data, the site is not located within a groundwater Source Protection Zone. Furthermore according to the EA’s Groundwater Quality River Basin Management Plan[2] under the European Water Framework Directive (2000), the groundwater beneath the site has not been characterised.

Hydrology

- 4.15 Three watercourses are located within 1km of the site, which are classified within a River Basin Management Plan for watercourse quality (as illustrated in Table 4.4). These are Wade Brook, located approximately 15m to the south of the site, Wincham Brook 330m to the north and the Trent and Mersey Canal 400m to the east. Table 4.4 highlights that the three watercourses vary in ecological and chemical quality, as well as environmental sensitivity.

Table 4.4: Watercourse Quality Classification for Watercourses in Proximity to Site

Watercourse / body	Quality Classification	Approximate Distance and Direction from Site	Environmental Sensitivity
Wade Brook	Current Ecological Quality: ‘Bad’ Predicted Ecological Quality: ‘Bad’ Current Chemical Quality : N/A Predicted Chemical Quality: N/A	15 m S	Low to Moderate

Watercourse / body	Quality Classification	Approximate Distance and Direction from Site	Environmental Sensitivity
Wincham Brook	Current Ecological Quality: 'Good' Predicted Ecological Quality: 'Moderate' Current Chemical Quality : 'Fail' Predicted Chemical Quality: 'Fail'	334 m N	Moderate
Trent and Mersey Canal	Current Ecological Quality: 'Good' Predicted Ecological Quality: 'Good' Current Chemical Quality : 'Fail' Predicted Chemical Quality: 'Fail'	401 m E	Moderate

- 4.16 A surface water pond is indicated to be approximately 70m to the northwest of the site and several drainage ditches are indicated to be located approximately 90m to the north of the site.
- 4.17 The site is not located within an indicative fluvial floodplain according to the EA flood map and so is not at risk of fluvial flooding. Furthermore, according to the EA surface water flood map, the site is within an area that is of low risk of surface water flooding.

Pollution History

Pollution Incidents and Emergency Response

- 4.18 EA data indicates there are twenty five pollution incident records to controlled waters within 500m of the site. None of the pollution incidents recorded are indicated to be within the site boundary. No records of prosecutions relating to controlled waters are recorded within 2km of the site. Details are provided in Table 4.5, below.

Table 4.5: Summary of Recorded Pollution Incidents to Controlled Waters

Property Type	Location	Date of Incident	Distance (m) and Direction from Site	Pollutant	Incident Classification
Manufacturing	Brunner Mond, Lostock Works	04/08/1999	85m N	Inorganic Chemicals: Sodium Chloride	Category 3
Not Given	Not Supplied	15/09/1994	121m SW	Oils	Category 3
Chemical Industry	Wade Brook, Brunner Mond	10/03/1998	142m E	Oils	Category 3
Chemical Industry	ICI Lostock	22/01/1998	162m E	Chemicals	Category 3
Not Given	Not supplied	14/04/1996	164m E	Alkali Chemicals	Category 3
Chemical Industry	ICI Chemical & Polymers	01/09/1997	183m SW	Oils	Category 3
Pipelines (Long distance only)	Lostock Gralam	15/08/1997	207m N	Chemicals	Category 3
Not Given	Not supplied	27/02/1991	211m NE	Oils	Category 2
Not Given	Not Supplied	04/08/1994	227m W	Oils	Category 2

Property Type	Location	Date of Incident	Distance (m) and Direction from Site	Pollutant	Incident Classification
Spillage; Accident static site	Cheshire	01/10/1996	255m E	Chemicals	Category 3
Spillage	Cheshire	03/07/1996	296m NE	Alkali Chemicals	Category 3
Industrial	Brunner Mond, Lostock	11/02/1997	300m NE	Oils	Category 3
Spillage: Accident in Transit	Cheshire	10/02/1996	336m N	Chemicals	Category 3
Not given	Not Supplied	23/08/1994	341m E	Chemicals	Category 3
Spillage Accident- Static site	Brunner Mond, Lostock Site	23/08/1996	356m E	Chemicals	Category 3
Manufacturing	Lostock Works, Wade Brook	04/08/1999	357m SW	Inorganic Chemicals	Category 3
Manufacturing	Lostock, Northwich	11/10/1999	390m NE	Inorganic Chemicals	Category 3
Chemical Industry	ICI Lostock, Griffiths Road	03/11/1998	402m SE	Chemicals	Category 3
Chemical	Trent & Mersey Canal, Griffiths Road	10/07/1998	449m E	Miscellaneous	Category 3
Chemical	ICI Lostock	18/12/1997	450m E	Chemicals	Category 3
Not Given	Not Supplied	23/04/1991	466m SW	Industrial Effluent	Category 3
Construction	Marbury lane, Northwich	24/06/1999	469m SW	Inert: Other	Category 3
Chemical	ICI Lostock - Brine Purification Plant	25/03/1998	477m E	Chemicals	Category 3
Not Given	Griffiths Road, Lostock	11/02/1997	479m E	Chemicals	Category 3
Water company sewage: Foul Sewer	River Lostock, Northwich	31/03/1998	491m NE	Surcharged Sewage	Category 3

Existing Site Investigation Data and Historical Use

Phase II Factual Report Lostock Works Cheshire, Van Elle (2009)

- 4.19 A Phase II Factual Site Investigation was carried out by Van Elle in 2009 [3] to provide information regarding site ground conditions for use in an environmental assessment for redevelopment of the site for an alternative land use. The full report can be found in Annex A.
- 4.20 The investigation identified metal contamination to soil and groundwater, as well as localised organic contamination to soil and groundwater, which most likely resulted from historical use of the site as a bleach works and chlorine plant with an asbestos handling station and other

associated infrastructure. Localised contamination was identified in the form of PAHs and VOCs (trichloromethane and trimethylbenzene).

- 4.21 Notable exceedances of pollutant standards from soil samples identified within the report are given in Table 4.6 The standards utilized were the Land Quality Management and Chartered Institute of Environmental Health's Sustainable 4 Use Levels (LQM/CIEH S4ULs) for Human Health Risk Assessment and the Environmental Quality Standards (EQS) for freshwater for leachate results.

Table 4.6: Soil Sample Pollutant Standard Exceedances from the Van Elle Phase II Factual Report

Determinant	Screening Value (mg/kg)	Concentration (mg/kg)	Location
Arsenic	640	8700 7800 4500 2300 870	WS1 1.2m TP4 0.4m TP1 0.4m BH3 0.3m WS6 0.8m
Trichloromethane	99	240	TP4 0.4m
Benzo(a)anthracene	170	790	BH19 0.5m
Benzo(a)pyrene	34	660	BH19 0.5m
Benzo(b)fluoranthene	44	750 46	BH19 0.5m BH5 2.1m
Chrysene	350	940	BH19 0.5m
Dibenzo(ah)anthracene	3.5	170 5.6 5.5	BH19 0.5m WS8 0.6m BH5 2.1m
Naphthalene	190	270	BH19 0.5m

- 4.22 Groundwater samples contained elevated concentration of metals (including arsenic, cadmium, copper, lead, nickel, mercury and zinc) and elevated localised concentrations of hydrocarbons, PAHs and VOCs (chloroethane, dichloroethane and trichloroethane). Carbazole and dibenzofuran was identified at sporadic locations in soil and groundwater. Surface water samples collected from Wade Brook were found to contain elevated concentrations of metals and VOCs, including trichloroethane at concentrations up to 24 µg/l and bromodichloromethane in concentrations up to 9.6 µg/l.
- 4.23 Ground gas monitoring identified methane and carbon dioxide in several boreholes across the site. Concentrations of methane in the boreholes (BH15 and BH19) were typically less than 0.3%, with a maximum recorded concentration of 0.4%. Carbon dioxide was recorded at a maximum concentration of 20.1% (at BH15 on one occasion); however, concentrations in wells were typically less than 5%.

Phase 1 Geo-Environmental Risk Assessment, RPS Group (2015)

- 4.24 As part of a phase 1 Geo-Environmental Risk Assessment, RPS carried out a review of a number of previous site investigations carried out for the Lostock Site [4]. The full report can be found in Annex A.
- 4.25 The review included the “Soil and Groundwater Contamination Assessment Stage 1 Investigation” created by ICI Group in February 1996, which produced a historical review of the Lostock Site and identified areas of contamination in order to satisfy the requirements of the ICI Group SHE policies.
- 4.26 The report indicated that Lostock Works was developed during the 1890s, with Lostock Bleach Works situated on the site of the (former) chlorine plant on the proposed REnescience Northwich site. The bleach works was demolished in 1935 and a chlorine plant was commissioned in 1978.
- 4.27 The site’s previous use as a bleach works may have had the potential to have caused soil/groundwater contamination. Contaminants associated with this type of works include organometallics, PAHs, cresols, phenols, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins, surfactants, metals and metalloids, other inorganic ions including chlorides, chlorates, fluorides and ammonium bisulphate, and acids including hydrochloric, nitric, phosphoric and sulphuric and alkalis including sodium hydroxide. Other potential contaminants include asbestos, PCBs and fuels (i.e. coke).
- 4.28 Furthermore, the report states the former chlorine works may also have had the potential to cause soil/groundwater contamination. Contaminants identified as being used at the site by the ICI report include chlorides, sulphates, sulphides, metals, alkalis (including calcium oxide, sodium hydroxide and sodium carbonate), hydrochloric and sulphuric acid, hydrocarbons, PAHs, chlorinated solvents, inorganics, PCBs and asbestos.
- 4.29 The ICI report reviewed concluded that in relation to the chlorine plant, generally operations were well contained thus only minor soil and ground contamination from spills and leaks of hypochlorite, caustic soda and acids would have occurred, leading to local effects. It also concluded that wastes from historical operations occurring on site were covered at the time of investigation by slabs and buildings.
- 4.30 An area occupied by a former tip, identified within the ICI (1996) report and other areas of earthworks on site have the potential for contamination. Made Ground contains a range of organic and inorganic contaminants and has potential to generate ground gas.
- 4.31 The ICI report also highlighted potential for contamination to groundwater and soils from the adjacent chemical works, salt works and localised contamination associated with the railway lines adjacent to the site. Contaminants associated with the salt works and railway lines may include PAHs, hydrocarbons, metals and asbestos, whilst potential contamination from the nearby chemical works would be similar to that of the chlorine works.

- 4.32 The RPS review found that site drawings created by Wardell Armstrong in 2009 illustrate the presence of a former asbestos handling area, part of the chlorine plant located to the west of the centre of the site. Site drawing LE10104/SI/003A indicates groundwater flow at the site is in a south easterly direction towards Wade Brook.
- 4.33 The review also included citation of the 'Non-Residential Coal Authority Mining Report' from 2015, which stated that based on records held by the Coal Authority, that the site is not located within an area that may potentially be affected by past, present or future mine works. Furthermore no records of mine entries on or within 20m of the site have been made.

Potential Contaminant Pathways

- 4.34 In terms of potential pathways for contamination from the existing site conditions, there is potential for leaching of mobile contaminants present within the Made Ground and shallow soils to the shallow groundwater associated with the Made Ground and Alluvium present on the site, surrounding the remaining former chlorine works floor slab. Furthermore, there is potential for such contaminants to undergo lateral migration within the shallow groundwater into surface water bodies in close proximity to the site, including Wade Brook. However, Glacial Till that underlies the site is of low permeability and therefore is likely to limit the migration of shallow groundwater and contamination to the underlying strata, and furthermore lateral migration is likely to be limited the shallow Made Ground and the Alluvium strata. Remnant underground structures, for example the drainage system, may also provide potential for contamination. If contaminants are held within existing features such as drains and sumps, contamination could originate from these features.
- 4.35 The risk to human health, controlled waters and infrastructure from existing site conditions is considered to be low to moderate, and it has been recommended that further site investigation should be undertaken prior to redevelopment.
- 4.36 Potential pathways for contamination during operation of the facility include contamination to water from surface water drainage, resulting from spills or leaks, such as from fuel, chemical or enzyme storage areas, or from run off from waste storage areas. Other risks include potential soil contamination from leaks and spillages, or run-off from waste.
- 4.37 However, following completion and during operation of the facility there will be extensive building and hardstanding ground cover within the site, which will limit surface water infiltration rates and subsequently reduce leaching of contaminants into the groundwater that may be occurring under pre-development conditions. In terms of potential pathways to water from surface water drainage during operation, secondary containment measures will be in place, such as bunding for fuel delivery areas and enzyme storage tanks, to prevent potential contamination from leakage.
- 4.38 Measures put into place to prevent contamination to water due to run-off from waste storage areas includes storage of incoming waste within enclosed buildings, with drainage to the process water tank. Likewise recovered materials will be stored within external waste storage areas which will be covered and have drainage to a sump that will be monitored for contamination prior to

manual release into the surface water drainage system. If contamination occurs water can be removed from the sump for off-site disposal. Furthermore an ISO14001 or equivalent Environmental Management System will be implemented which will ensure good housekeeping to control the potential for leaks and spillage and to ensure that where these do occur they are prevented from impacting soils and ground/surface water.

- 4.39 The above measures and design features have been put in place to ensure that potential contamination pathways will be minimal and as such the impact to soil and groundwater during the facility's operation has been evaluated as being neutral (or beneficial if existing contamination identified is to undergo remediation).
- 4.40 In response to recommendations for site investigation works, a Phase II Intrusive Investigation has been undertaken by RPS to confirm the extent of the soil and groundwater contamination and the ground gas regime currently on site. The investigation included a total of 14 boreholes of varying depths in order to provide groundwater monitoring, 13 groundwater and gas monitoring wells, a number of surface water samples and sediment samples from the existing drainage system. Borehole sampling has also been carried out in proximity to the two fuel storage tanks for the proposed facility.
- 4.41 Results from the Phase II Intrusive Investigation are likely to become available during December 2015. Once results become available, they can be used to update information found within this site condition report.
- 4.42 In addition, following the Phase II Investigation should a subsequent risk assessment determine that there is an unacceptable risk to human health or controlled waters resulting from existing site contamination, a Remediation Strategy will be put into place to provide mitigation for existing contaminants on site.

5 Operational Phase of Site Condition Report

Operational Phase

5.1 During the life of the permit, the following sections of the SCR template (based on the guidance in EPR Horizontal Guidance Note 5, H5) will be maintained in order that the operator can demonstrate that the land is in a 'satisfactory state' should the permit be surrendered. Relevant information, as identified within the template below, will need to be collected and recorded throughout the life of the permit. In addition, relevant procedures will be reviewed, to ensure that sufficient data is available when the REnescience Northwich facility seeks to cease the permitted activities.

CHANGES TO THE ACTIVITY	
Have there been any changes to the activity boundary?	If yes, provide a plan showing the changes to the activity boundary.
Have there been any changes to the permitted activities?	If yes, provide a description of the changes to the permitted activity.
Have any 'dangerous substances' not identified in the application SCR been used or produced as a result of the permitted activities	If yes, list them.
Checklist of supporting information	<ul style="list-style-type: none"> ▪ Plan showing any changes to the boundary (where relevant). ▪ Description of the changes to the permitted activities (where relevant). ▪ List of 'dangerous substances' used/produced by the permitted activities that were not identified in the ASCR (where relevant).

MEASURES TO BE TAKEN TO PROTECT THE LAND	
Use records collected during the life of the permit to summarise whether pollution prevention measures worked. If this is not possible, collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	<ul style="list-style-type: none"> ▪ Inspection records and summary of findings of inspections for all pollution prevention measures. ▪ Records of maintenance, repair and replacement of pollution prevention measures.

POLLUTION INCIDENTS THAT MAY HAVE HAN AN IMPACT ON LAND, AND THEIR REMEDIATION	
Summarise any pollution incidents that may have damaged the land. Describe how these were investigated and remedied. If this is not possible, collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	<ul style="list-style-type: none"> ▪ Records of pollution incidents that may have impacted on land. ▪ Records of their investigation and remediation.

SOIL GAS AND WATER QUALITY MONITORING (WHERE UNDERTAKEN)	
Provide details of any soil gas and/or water monitoring undertaken. Include a summary of the findings. State whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how this was investigated and remedied.	
Checklist of supporting information	<ul style="list-style-type: none"> ▪ Description of soil gas and/or water monitoring undertaken. ▪ Monitoring results (including graphs).

6 Surrender Site Condition Report

Surrender Phase

- 6.1 At permit surrender, the following sections of the SCR template (EPR H5) will be completed and submitted to the EA as part of the permit surrender application. Information that has been gathered over the lifetime of the permit will be used to identify whether the land is in a satisfactory state. If necessary, surrender reference data will be collected and remediation will be undertaken if required.

DECOMMISSIONING AND REMOVAL OF POLLUTION RISK	
Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how this was investigated and remedied.	
Checklist of supporting information	<ul style="list-style-type: none"> ▪ Site Closure Plan. ▪ List of potential sources of pollution risk. ▪ Investigation and remediation reports (where relevant).

REFERENCE DATA AND REMEDIATION (WHERE RELEVANT)	
State whether land and/or groundwater data was collected or whether it wasn't required because the information within the Surrender Site Condition Report shows that the land has not deteriorated.	
If any land and/or groundwater reference data was collected, summarise what this entailed, and what the data show. State whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a 'satisfactory state'. If it isn't, a summary of what has been done to remedy this should be provided. The operator must confirm that the land is in a 'satisfactory state' at surrender.	
Checklist of supporting information	<ul style="list-style-type: none"> ▪ Land and/or groundwater data collected at application (if collected). ▪ Land and/or groundwater data collected during operation (where needed). ▪ Land and/or groundwater data collected at surrender (where needed). ▪ Assessment of satisfactory state. ▪ Remediation and verification reports (where undertaken).

STATEMENT OF SITE CONDITION
Provide a statement about the condition of the land at the site. This should confirm that: <ul style="list-style-type: none"> ▪ the permitted activities have stopped; ▪ decommissioning is complete, and the pollution risk has been removed; and ▪ the land is in a satisfactory condition.

7 Conclusions

- 7.1 RPS Planning and Development Limited has undertaken an assessment of the condition of site of the proposed REnescience Northwich facility, in support of the application for an environmental permit.
- 7.2 The primary purpose of this report is to provide information to the EA in relation to the planned operations, and to provide them with a framework against which potential future contamination issues will be assessed. The report has been structured in accordance with the EA's Horizontal Guidance Note H5: Site Condition Report Guidance and Template.
- 7.3 Historically, the site has been used for several industrial activities, including a bleach works and chlorine plant, which may have given rise to soil and groundwater contamination identified by the 2009 Phase II Site Investigation. This investigation further highlights the potential for soil/groundwater contamination and ground gas generation due to made ground on site, thought to be a former tip.
- 7.4 During operation of the facility, risks of contamination to water or land will be minimised due to a number of design measures and management practices put in place to control and monitor potential contamination to soil and water receptors, through leaks, spills and run-off. As such the risk from operational activities is considered to be neutral, or beneficial should remediation works occur prior to development of the site.
- 7.5 The potential for existing contamination on the proposed development site needs to be investigated, since pre-existing contamination levels may influence contamination levels detected post-closure. As recommended, prior to redevelopment, a Phase II Intrusive Investigation was undertaken in order to confirm the extent of soil and groundwater contamination and the ground gas regime. The scope of the proposed further investigations is to provide further geotechnical information as well as additional information on ground contamination to inform the baseline data for the environmental permit. In particular, further site investigation has been undertaken in proximity to the two fuel storage tanks. Further details of the scope of the additional site investigation works are provided in Annex A.
- 7.6 Results from the Phase II Intrusive Investigation are to follow. As soon as data from this investigation become available, the information provided within this Site Condition Report will be updated accordingly. Should results of the Phase II Investigation and subsequent risk assessment bring to light an unacceptable risk to human health or controlled water receptors from the existing ground conditions, then appropriate mitigation in the form of a Remediation Strategy will be implemented.

Acronyms

Acronym	Full Term
ASCR	Application Site Condition Report
EA	Environment Agency
EMS	Environmental Management Systems
EP	Environmental Permit
EPR	Environmental Permitting (England and Wales) Regulations 2010
PAH	Polycyclic Aromatic Hydrocarbon
SCR	Site Condition Report
VOC	Volatile Organic Compound

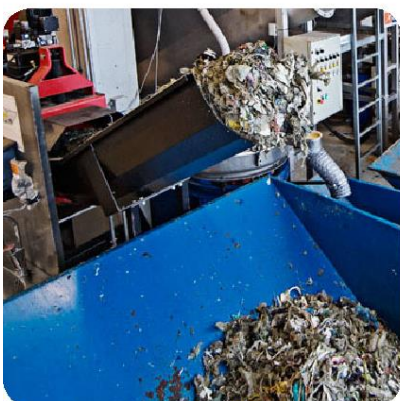
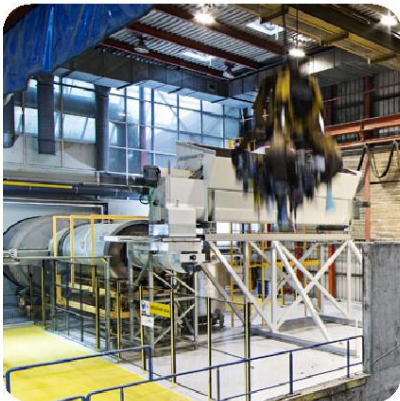
References

- [1] Environment Agency, "Horizontal Guidance: H5 Environmental Permitting Regulations: Site Condition Report - Guidance and Templates," 2013.
- [2] Environment Agency, "Groundwater Quality River Basin Management Plan", 2015.
- [3] Van Elle, "Phase II Factual Report: Lostock Works, Cheshire", 2009. [See Annex A.]
- [4] RPS Group, "Phase 1 Geo-Environmental Risk Assessment", 2015. [See Annex A.]



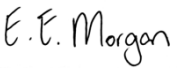


Chapter 9: Geology and Ground Conditions

REnescience Northwich



Successful Partners
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Quality Management

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DISCLAIMER

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Except for the provision of professional services on a fee basis, RPS does not have a commercial arrangement with any other person or company involved in the interests that are the subject of this report.

Executive Summary

The Phase 1 Environmental Review has concluded that previous use of the site had the potential to have generated soil or groundwater contamination. These uses included the former bleach works, former brine pumping station, former chlorine plant and any Made Ground relating to a former tip, embankments and previous construction/demolition work.

Further to this, a number of off-site land uses have the potential to have had a localised impact on soil and groundwater quality. These were identified to include Made Ground associated with railway lines adjacent to the site, saltworks, a chemical works adjacent to the east of the site, associated infrastructure including substations and railway lines, landfills including waste lime reservoirs (now Griffiths Park), a former brick and tile works and a former gasometer.

A previous site investigation (Phase II Factual Report Lostock Works Cheshire. Van Elle (2009) Ref: G900000) has identified contamination at the site in the form of metals and trichloromethane. Based on present information, it is therefore considered that there is potential for existing contamination associated with soil and groundwater on the site to impact receptors.

Prior to development of the site, a further site investigation will be undertaken, which will investigate soil and groundwater contamination and the presence of ground gas. If further contamination is identified, a detailed risk assessment will be undertaken to confirm whether there is the potential for an impact to human health or the environment. If a risk is identified, then an appropriate remediation strategy will be developed and remediation or mitigation action will be undertaken as necessary.

A Construction Environment Management Plan (CEMP) has been developed (see Appendix 2.C in Volume 3 of the ES). It sets out appropriate measures to control dust and contamination of the environment during the development, including procedures to be followed if any contamination is identified during site work.

In summary, adverse environmental impacts relating to soil and groundwater during construction and operation would be prevented by measures incorporated into the development scheme. The effects of the proposed development are assessed to be neutral, or potentially beneficial if contamination is identified and remediated.

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Appendices

Appendix 9.A: Phase 1 Geo-Environmental Risk Assessment
Appendix 9.B: Van Elle 2009 Phase II Factual Report

1 Introduction

Background and Study Area

- 1.1 The purpose of the assessment is to describe the existing baseline ground conditions of the application site and its immediate surrounding area, including an initial appraisal of the contamination risk to soils and groundwater and the potential impact on sensitive receptors (controlled waters and human health). The assessment will identify any key potential effects of the proposed development on identified receptors. Baseline data from a range of sources has been collated, including published data sources, an Envirocheck Report (Landmark, 2015, reproduced in Annex 9.A.4) and the Phase 1 Environmental Review (Appendix 9.A). The Phase 1 Review includes a summarised account of factual intrusive site investigation report undertaken by Van Elle (2009) (Appendix 9.B). This report includes soil and groundwater analytical data.
- 1.2 The potential effects of the proposed development on soils and groundwater (and the associated risk to sensitive receptors in the form of controlled waters and human health) during construction and on completion of the development have been assessed. Due to the links with groundwater quality issues in this chapter, hydrogeological baseline conditions and potential effects on controlled waters receptors (groundwater and surface water) have also been considered.
- 1.3 The study area for this assessment encompasses both the application site and its wider surroundings. An appropriate radius from the study area is considered to be 500m from the site boundary, on the basis that no significant impacts are anticipated beyond this distance from the site due to the effects of dilution / dispersion.

Legislation, Policy and Guidance

- 1.4 This section outlines the key international, national and local environmental legislation, policies and guidance that relate to ground conditions and contaminated land.

European Legislation

- 1.5 The Water Framework Directive (2000/60/EC) aims to protect and enhance the quality of:
 - surface freshwater (including lakes, streams and rivers);
 - groundwater bodies;
 - groundwater dependent ecosystems;
 - estuaries; and
 - coastal waters to one mile from low-water.
- 1.6 The Groundwater Directive (2006/118/EC) expands upon Article 17 of the European Water Framework Directive. The Directive includes provisions for assessing groundwater chemical status and criteria for groundwater pollution trend identification.

- 1.7 The Environmental Liability Directive (2004/35/EC) establishes a framework of environmental liability with regard to the prevention and remedying of environmental damage based on the 'polluter pays principle', according to which the polluter pays for the prevention and remediation of environmental damage. The Directive's objective is to prevent and remedy 'environmental damage', which is damage to protected species and habitats (nature), damage to water and damage to soil.

National Legislation

- 1.8 The Environmental Protection Act (1990) includes contaminated land legislation, which is principally contained within Part IIA of the Act. This sets out a scheme for the identification of contaminated land and for the enforcement of remediation.
- 1.9 The Environment Act 1995 (Section 57) amends the Environmental Protection Act (1990) and makes provisions for a risk based framework for the identification, assessment and management of contaminated land within the UK. The provisions of the Act came into effect in April 2000 and are aimed at ensuring that actions taken with respect to contaminated land are directed by a technically well-founded assessment of risk that considers the 'source–pathway–receptor' (pollutant linkage) scenario. Under the legislation, contaminated land is defined in Part IIA, article 78A(2) as:

"...any land which appears to the Local Authority in whose area it is situated to be in such a condition that:

- *'Significant harm' is being caused or there is a significant possibility of such harm being caused; or*
- *Pollution of controlled waters is being, or is likely to be, caused."*

- 1.10 'Significant harm' is defined in the guidance according to risk-based criteria and must be the result of 'pollutant linkages'. Such pollutant linkages can be assessed using a qualitative risk assessment that addresses the following:

- potential sources of contamination;
- sensitive receptors; and
- migration pathways linking the potential sources to the sensitive receptors.

- 1.11 All three of the above factors must be present for an environmental risk to exist. The presence of contamination alone does not necessarily indicate a need for remedial action and a site can only be considered 'contaminated' when a risk to the environment or human health exists due to the presence of a full 'source–receptor–pathway' linkage. In such circumstances, and where there is a significant risk posed to human health and / or the environment, the above Acts state that Local Planning Authorities (LPAs) must adopt a 'suitable for use' approach. This means that the degree of remediation is dictated by the site's proposed end use.

- 1.12 The Contaminated Land (England) Regulations (amended 2012) set out provisions relating to the identification and remediation of contaminated land. These regulations also determine sites that require regulation as 'special sites' and add land contaminated by radioactive substances to this classification.
- 1.13 The Water Resources Act 1991 (Amendment) (England and Wales) Regulations (2009) introduced the definition of controlled waters and outlined measures that should be undertaken to protect water resources. The Act also details the responsibilities of the Environment Agency (EA) in relation to water pollution, resource management and flood defence.
- 1.14 The Groundwater (England and Wales) Regulations (2009) implement Article 6 of Directive 2006/118/EC on the protection of groundwater against pollution and deterioration. They create an offence of discharge of a hazardous substance or non-hazardous pollutant without a permit and give the Environment Agency powers to require information and to serve notices prohibiting activities.
- 1.15 The Water Environment (Water Framework Directive) (England and Wales) Regulations (2003) implement the European Water Framework Directive. The Regulations require a new strategic planning process to be established for the purposes of managing, protecting and improving the quality of water resources and apply to river basins in England and Wales.
- 1.16 Other relevant legislation, which has implications for the consideration of pollution risks and contamination, includes the following relating to waste and asbestos.
- 1.17 The Environmental Protection (Duty of Care) Regulations (1991), which ensures that waste is disposed of legally and in an appropriate manner. Under these regulations, any organisation disposing of waste should be able to account for all of the waste and demonstrate that disposal was carried out legally.
- 1.18 New definitions for hazardous waste and non-hazardous waste are given by the Hazardous Waste (England and Wales) Regulations 2005 (SI 2005 894). Overall, the regulations aim to track and control hazardous waste movements, including the requirement for a consignment note prior to the removal of any waste.
- 1.19 The Landfill (England and Wales) Regulations (2002) implement the regulatory and technical aspects of the EU Landfill Directive in England and Wales.
- 1.20 The Control of Asbestos Regulations 2006 prohibits the importation, supply and use of all forms of asbestos and includes regulations regarding the duty to manage asbestos and the removal of asbestos.

National Planning Policy

- 1.21 The National Planning Policy Framework (NPPF) (2012) sets out the government's national planning policy regarding land that may be affected by contamination. This policy is risk-based and follows former guidance presented in Planning Policy Statement Number 23 (PPS23) which

was formally withdrawn on the 27th March 2012. The risk assessment methods adopted by PPS23 reflected those contained in Part IIA of the Environmental Protection Act (1990), as detailed above. The Environment Agency has also created Pollution Prevention Guidance (PPGs), which provide industry and the public with information about their legal responsibilities and give guidance on how to avoid pollution and comply with the law.

Local Policy

- 1.22 The Cheshire West and Chester (CWCC) Local Plan Part One is the main planning policy document for the area, providing the planning policy framework to deliver sustainable growth up to the year 2030 and beyond. The following policies relate to contaminated land and the development of waste treatment plants.
- STRAT 1: protect, enhance and improve the natural and historic environment whilst enhancing and restoring degrading and despoiled land, seeking opportunities for habitat creation; and encourage the use and redevelopment of previously developed land and buildings in sustainable locations that are not of high environmental value.
 - ENV 8 – 8.71: the locational strategy for waste facilities is based on the use of existing operational sites within the borough and three locations at Ince Park near Ellesmere Port, Lostock Works, Northwich and Kinderton Lodge near Middlewich. These all benefit from planning consent for waste uses, and although at the current time are not operational, are located in proximity to the largest conurbations in the borough and have the potential for co-location of waste management facilities.

Guidance

- 1.23 Defra Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012) replaces previous statutory guidance, which was published as Annex 3 of Defra Circular 01/2006. The guidance details the responsibilities of the Local Authority in prioritising the inspection of sites under Part 2A of the Environmental Protection Act and sets out a revised framework for assessing risk associated with land contamination. Guidance on remediation is also presented and the document introduces the necessity for cost-benefit analysis when assessing appropriate remedial techniques.
- 1.24 British Standard BS 10175 (2011) 'Investigation of Potentially Contaminated Sites' forms the basis for assessing the necessary extent of site investigations.
- 1.25 EA Pollution Prevention Guidelines (PPGs), most notably *PPG8 Safe Storage and Disposal of Fuel Oils* (EA, 2004), *PPG5 Works or Maintenance in or Near Water* (EA, 2007), and *PPG6 Working at Construction and Demolition Sites* (EA, 2010) provide further guidance on pollution prevention.
- 1.26 Model procedures for the management of land contamination have been developed by the EA and are presented in Contaminated Land Report 11 (CLR 11, 2004). These provide the technical

framework for applying a risk management process when dealing with land affected by contamination. The framework presented in CLR 11 forms the basis of the risk assessment approach adopted in this ES Chapter.

- 1.27 Groundwater Protection: Principles and Practice (GP3, 2012) is a document published by the EA that sets out the Agency's approach to the management and protection of groundwater. The document includes details of the risk-based approach used for permitted activities and land contamination issues.
- 1.28 Contaminated Land: Applications in Real Environments (CL:AIRE) is an independent, non-profit organisation that aims to encourage the sustainable remediation of contaminated land and groundwater throughout the UK for effective social and economic use. This is achieved by increasing awareness and confidence in practical, sustainable remedial solutions.

2 Assessment Methodology and Significance Criteria

Impact Assessment Methodology

- 2.1 The baseline characterisation enables the development of a Conceptual Site Model (CSM) which allows the pre-existing ground conditions to be determined on the basis of source–pathway–receptor pollutant linkages, in line with the standard methodology used under Part 2A of the Environmental Protection Act (1990). The pollutant linkage adopted by the CSM is summarised as follows:
- source: potential contaminant sources;
 - pathway: the mechanism by which the source may affect a receptor; and
 - receptor: identified features that may be affected, based on the sensitivity of the site.
- 2.2 The assessment considers the potential risk to environmental receptors and provides an evaluation of the probability of harm occurring, taking into account potential sources of contamination and potentially active migration/exposure pathways.
- 2.3 The significance of predicted effects on the receptors identified as part of the baseline assessment that are likely to occur during construction and post development is determined by consideration of the sensitivity of the receptor that may be affected and the magnitude of the predicted impact.

Consultation

- 2.4 An EIA Scoping Note for the proposed development was submitted to Cheshire West and Chester Council (CWCC) on 08 July 2015. CWCC provided its Scoping Opinion, with input from the statutory consultees Network Rail, The Health & Safety Executive, Natural England, the Environment Agency and Historic England on 13 August 2015. Points raised in the Scoping Opinion are summarised in Chapter 3: Scoping and Consultation. Specific points concerning geology and ground conditions are as follows.
- 2.5 The response sent to CWCC from Dawn Hewitt of the Environment Agency regarding the geology and ground conditions states that:

“Given the known and suspected conditions of the land at the current time we would on application for planning permission look to recommend conditions regarding land contamination and risks to controlled waters.

This may alter depending on the information provided in support of the full EIA submission (as we have noted that a ground conditions chapter is included in the proposed EIA document) but fundamentally where a positive, significant pollutant linkage is identified we would look for assessment, and where necessary, remediation.”

- 2.6 The Phase I report (Appendix 9.A) includes a full review of historical potentially contaminative activities at the site and the previous contaminated land site investigation. This historical review identified the potential for land contamination and risks to controlled waters as referenced in the EA response. The previous site investigation undertaken by Van Elle in 2009 (Appendix 9.B) identified contamination in the form of metals and trichloromethane. A further Phase II Site Investigation is proposed to be undertaken at the site to establish the current ground conditions prior to redevelopment. Upon completion of the Phase II Site Investigation, recommendations will be made including, if necessary, a remedial strategy as advised in the EA response.
- 2.7 Further correspondence between CWCC and RPS was undertaken. In an email dated 8th September 2015 RPS requested by email on 8 September 2015 any further comments from CWCC (Martin Wright) regarding geology and ground conditions, in relation to the Scoping Opinion, which did not contain a response on these matters.

Martin advised that “on contamination there are potentially legacy issues (which we recognize the development may resolve if present and would become a positive benefit) the planning requirement is as a minimum site not determinable as part IIA and safe development with acceptable risks from remediation. Whilst the development proposed is not particularly sensitive to contamination we would want to be confident in the mitigation of the site as a legacy source of contamination particularly for off-site risks.”

A more detailed risk assessment method than is usually undertaken for EIA, with a CLR11 compliant general approach, was recommended. The Phase I and Phase II reports being produced by RPS have been and will be undertaken using the standard CLR11 compliant method, including consideration of the risks associated with soil/groundwater contamination and ground gas to the development site and off-site receptors. In further correspondence with CWCC, it was agreed that this method is likely to satisfy the planning requirements in relation to geology and ground conditions.

Receptor Sensitivity Definition

- 2.8 Two main receptor types are relevant to this chapter. These are human health and controlled waters (i.e. rivers and groundwater aquifers). The sensitivity of a controlled water body is largely determined by its quality and scale (i.e. local, national and international). The sensitivity for humans is determined by proximity to the source of contamination, age of the people and duration of residence/presence in proximity to contamination. The sensitivity of receptors relevant to this chapter has been informed by professional judgement and the criteria outlined in Table 2.1.

Table 2.1: Sensitivity Definitions

Sensitivity	Typical descriptors
Very high	Controlled waters – attribute with a very high quality and rarity on a regional to international scale with very limited potential for substitution. Examples include: Principal Aquifer providing potable water to a large population. Humans – schools, hospitals and care institutions.
High	Controlled waters – attribute with a high quality and rarity on a local scale with limited potential for substitution, or attribute with a medium quality or rarity on a regional to national scale with limited potential for substitution. Examples include: aquifer providing potable water to a small population and/or large resource potential. Humans – residential areas, recreational areas, construction workers.
Medium	Controlled waters – attribute with a medium quality and rarity on a local scale with limited potential for substitution, or attribute with a low quality and rarity on a regional to national scale with limited potential for substitution. Examples include: Secondary Aquifer unit supporting abstraction for agricultural or industrial use and/or moderate resource potential or non-designated geological exposures important at a regional or local scale. Humans – commercial, retail or industrial employment areas.
Low	Controlled waters – attribute with a low quality and rarity on a local scale with limited potential for substitution. Examples include: previously disturbed land or non-designated geological exposures important at a very local scale; abandoned quarries and mining activities. Humans – none (human health receptors are all considered to be of medium or greater sensitivity).
Negligible	Controlled waters – attribute with very low importance and rarity at the local scale. Examples include Unproductive Strata unit that does not afford protection to underlying water bearing units or non-designated geological exposures common at a regional or local scale. Humans – none (human health receptors are all considered to be of medium or greater sensitivity).

Existing Baseline Conditions

- 2.9 RPS has undertaken a detailed desk based assessment for the site (Phase 1 Environmental Review, RPS report reference RCEI35418-001R, dated June 2015), which is presented in full as Appendix 9.A.
- 2.10 The assessment includes a review of information held by an environmental information service provider, including information provided by the following bodies:
- Cheshire and Chester West Council;
 - Environment Agency;
 - British Geological Survey;
 - Coal Authority;
 - Health Protection Agency; and
 - Natural England.
- 2.11 The information collected as part of this study has been used to inform the baseline conditions, which are summarised in the following sections.

Published Geological Mapping

- 2.12 British Geological Survey mapping indicates that the site is underlain by bedrock of the Northwich Halite Member which is generally described as interbedded halite and mudstone. The Northwich Halite Member is indicated to be dipping east at approximately 4° and is up to 286m thick in the vicinity of the site; the Northwich Halite Member is underlain at depth by the Bollin Mudstone Member.
- 2.13 The eastern boundary of the site is underlain by the Sidmouth Mudstone Formation which is generally described as interbedded mudstone and siltstone; it is indicated to be dipping east at approximately 5°.
- 2.14 The majority of the site is underlain by superficial deposits of Glacial Till – Diamicton which is described as poorly sorted gravels in a clay matrix.
- 2.15 The southern boundary of the site is indicated to be underlain by Alluvium deposits (relating to Wade Brook) which is described as clay, silt, sand and gravel.
- 2.16 Mapping indicates that extensive Made Ground is likely to be present at the site associated with historical land use and the presence of a filled ground in the form of a tip.
- 2.17 The King Street Fault is indicated to transect the eastern boundary of the site in a north/south orientation: this is the boundary of the Northwich Halite Member and the Sidmouth Mudstone.
- 2.18 No other faults or mass movement deposits are indicated to be present on site or in the vicinity of the site.

Hydrogeology

- 2.19 The Glacial Till – Diamicton is classified as Unproductive Strata and the Alluvium Deposits are classified as a Secondary A Aquifer. The underlying Northwich Halite Member is classified as Unproductive Strata and the Sidmouth Mudstone is classified as a Secondary B Aquifer. Unproductive Strata is described as formations that have a low permeability and have negligible significance for water supply or base flow. Secondary B Aquifers are formations that are generally formed of lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.
- 2.20 There are no records of licensed groundwater abstractions within 1km of the site. The sensitivity of the hydrogeological setting is reduced by the absence of any statutory designations (e.g. Source Protection Zones, SPZs) within 2km of the application site.

Hydrology

- 2.21 There are no on-site watercourses. Wade Brook is located approximately 15m to the south, which approaches the site from the east and flows to the west of the site.
- 2.22 Wincham Brook is located approximately 334m north of the site and flows in an east/west orientation in an easterly direction. Wincham Brook flows into Wade Brook approximately 730m

to the northwest of the site; Wade Brook then discharges to the River Weaver approximately 2.1km to the northwest of the site. No other main rivers are located within 1km of the site. However, a small pond is located 131m to the north of the site.

- 2.23 There are records of three surface water abstractions within 1km of the site: one associated with Wade Brook (approximately 350m east of the site) and one associated with Wincham Brook (situated approximately 380m northwest of the site). Neither are situated directly downstream of the site from Wade Brook. The third is associated with the Trent & Mersey Canal.

Site History

- 2.24 Information regarding the history of the site and surrounding area presented within the Phase 1 Assessment (Appendix 9.A) is summarised below.
- 2.25 Information provided to RPS indicates that the site is located in an area that has been used for industry and chemical manufacture for nearly 200 years. The Trent and Mersey Canal was constructed in 1777, maps of the area from the early 19th century indicate likely marl or salt pits among rural land-uses, and the Manchester to Northwich railway was completed in 1863. Soda ash and bleaching powder production commenced in the Lostock Works area in the late 18th century and much of the surrounding land, particularly to the south west and east, has been used for lime waste disposal associated with soda ash manufacture. During the First World War it is understood that ammonium nitrate production for use in explosives was undertaken at the soda works. Later, during the Second World War, a range of products were made on the Lostock Works site at the request of the Ministry of Supply, including chlorine, mono chloro-benzene and carbon tetrachloride.
- 2.26 Historical maps indicate that the initial major development of the site and surrounding area occurred between 1880 and 1898. The map dated 1898 indicates that the eastern area of the site was occupied by Lostock Bleach Works which extended off-site to the east. The western area of the site is indicated to have been occupied by a brine pumping station. A mineral railway is shown adjacent to the western boundary with a brine cistern beyond. Several areas of disturbed ground are shown in the south and west of the site (the western area of the site is understood to have been operated as a waste tip).
- 2.27 The map dated 1938 suggests that the Bleach Works was demolished and the site appears to have been vacant. It is shown to have been cleared and in 1954 is indicated to be occupied by railway lines with an area of disturbed ground west of the centre of the site. A chemical works is indicated to be located immediately adjacent to the east of the site and the railway lines appear to be associated with this works.
- 2.28 The map dated 1976 shows that the site was developed and labelled 'Works'. This is understood to be the chlorine plant with associated asbestos handling area that was commissioned in 1977. The 1993 map indicates the presence of a small electricity substation location to the north east of the site, as well as the large electricity substation adjacent to the south east of the site which

remains until the present. The site has not been in use since 2001 and all buildings were demolished to slab level in 2013.

Soil and Groundwater Quality

- 2.29 The site is located in an area that has been dominated by industrial land uses for a long period of time. The site itself has been occupied by a Bleach Works (circa 1898 to 1938) and a Chlorine Plant (circa 1977 to 2014) with associated infrastructure including tanks farms, electricity substations and railway lines. Tipping is understood to have occurred in the western half of the site during the site's use as a Bleach Works.
- 2.30 Made Ground is likely to be present across the site as a result of historical land uses and associated earthworks including the former tip. A 2009 site investigation undertaken by Van Elle (Appendix 9.B) encountered Made Ground to a maximum depth of 5m.bgl in the west of the site in the area indicated to have been a former tip.
- 2.31 Historic landfills (former lime beds) are indicated to have been located approximately 80m to the south of the site on the opposite bank of Wade Brook. These occupy an area that is now known as Griffiths Park.
- 2.32 Railway lines are located adjacent to the site; there is potential for contamination associated with any Made Ground used for the construction of railway embankments.
- 2.33 Potential contaminants associated with historical use of the site and surrounding land uses may include, but are not limited to: sulphates, sulphides, organometallics, polyaromatic hydrocarbons (PAHs), cresols, phenols, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins, surfactants, inorganic metals and metalloids, other inorganic ions including chlorides, chlorates, fluorides and ammonium bisulphate, and acids including hydrochloric, nitric, phosphoric and sulphuric and alkalis including sodium hydroxide. Other potential contaminants include asbestos, polychlorinated biphenyls (PCBs) and fuels (e.g. coke).
- 2.34 The site investigation undertaken by Van Elle, referenced above, identified elevated concentrations of metals in soils across the site. It also identified localised soil contamination in the form of PAHs and volatile organic compounds (VOCs, trichloromethane and trimethylbenzene). Groundwater samples contained elevated concentrations of a range of metals and localised elevated concentrations of hydrocarbons, PAHs and VOCs (chloroethane, dichloroethane and trichloroethane). Carbazole and dibenzofuran was identified at sporadic locations in soil and groundwater.
- 2.35 Surface water samples collected from Wade Brook were found to contain elevated concentrations of metals and VOCs (trichloromethane and bromochloromethane).
- 2.36 Ground gas monitoring undertaken by Van Elle during 2009 identified methane and carbon dioxide in several boreholes across the site, which is likely to be associated with the former tip.

Land Subsidence

- 2.37 According to the Coal Authority interactive mapping system the site is not located in a Development High Risk Area or a Coal Mining Reporting Area. The Coal Mining Reporting Area is the known extent of coal mining activity and is used to determine whether a coal mining report is required for property transactions and the conveyance process. Therefore the potential for subsidence associated with coal mining is considered to be low.
- 2.38 A Coal Authority Ground Stability Report dated April 2009 indicates that the site is located within the Brine Compensation Area but is not within any consultation area prescribed by the Cheshire Brine Pumping Act 1950. It states that a notice of damage has not been filed in respect of the property and there has been no commutation of claims in connection therewith.
- 2.39 According to BGS data, the nearest brine cavity is located approximately 650m west of the site. There are a further five brine cavities within 1km of the site.
- 2.40 Whilst the site is not indicated to be located above an area of past or current Halite mining, much of the previous extraction was undertaken prior to accurate records being kept. In addition a number of brine shafts and wells are located in the surrounding area. As a result there is potential for unrecorded mine workings to be encountered at the site. As the site has been developed previously without any obvious effects of mining or brine related subsidence it is considered that the risk is reduced.

Existing or Historical Potential Contamination Sources

- 2.41 The site is currently derelict and all buildings having been demolished to slab level; there are no primary point sources of contamination on the site at present (e.g. tanks). There is, however, the potential for secondary soil-based contamination sources associated with historical use of the site. There is also the potential for contamination to be present within underground structures such as the drainage system and associated sumps that remain present on site. The Phase I Environmental Review identified the following potential contamination sources associated with historical land uses:
- former bleach works with associated infrastructure including mineral railway;
 - former brine pumping station;
 - former chlorine plant with asbestos handling area and associated infrastructure;
 - railway lines adjacent to the site;
 - Made Ground relating to groundworks former tip, embankments, and construction/demolition; and
 - it is understood that asbestos-laden process effluent was discharged via the drainage system. There is the potential for asbestos contamination within the drainage system.

Primary off-site potential sources of contamination include the following:

- salt works (from c.1899);
- chemical works currently occupied by Solway Speciality Chemicals Ltd (c.1977 – present);
- associated infrastructure including substations and railways (pre-1882 – present);
- landfills including waste lime reservoirs (80m – 240m south of the site, on opposite side of Wade Brook);
- former brick & tile works, 1898 - 1911 (100m NE); and
- former gasometer, 1989 – 1910 (120m E).

2.42 There is potential for the presence of soil and groundwater contamination across the area associated with the industrial historical land uses. Historical use of the site, primarily as a bleach works and a chlorine works, has the potential to have contributed to soil and groundwater contamination, particularly within the site boundary. There is also the potential for contamination and the generation of ground gas associated with land raising and infilled ground on site and associated with the landfills to the south of the site. The former tip located in the western area of the site is of particular note with regard to the likelihood of Made Ground. There is potential for soil/groundwater contamination in relation to former substations that were present on the site.

2.43 Contaminants associated with historical use of the site and surrounding area which may include, but are not limited to metals, asbestos, inorganic ions including ammonium, sodium, chlorides, chlorates, nitrate sulphate, fluorides, acids and alkalis (sodium hypochlorite - bleach). Potential organic contaminants include PAHs, PCBs, phenols, petroleum hydrocarbons, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins and furans.

Identified Receptors and Sensitivity

2.44 The following table summarises the identified receptors and the sensitivity of each receptor.

Table 2.2: Sensitivity of Receptors

Sensitivity	Identified receptors
Very high	None – there is not considered to be a risk to Principal Aquifers or human health receptors in the form of schools, hospitals or care institutions.
High	<u>Human health</u> Post-development site users, the workers at the site and other workers/residents at properties located within 500m of the site and construction workers are considered to represent highly sensitive receptors.
Moderate	<u>Controlled Waters</u> Wade Brook flows to the west and is located approximately 15m to the south of the site. Wincham Brook is located approximately 334m north of the site and flows in an east/west orientation in an easterly direction. Wincham Brook flows into Wade Brook approximately 730m to the northwest of the site; Wade Brook then discharges to the River Weaver approximately 2.1km to the northwest of the site. These surface water courses are considered to represent moderately sensitive receptors.
Low	<u>Secondary Aquifer</u> The Secondary Aquifers associated with the superficial Alluvium deposits and the Bollin Mudstone Formation do not support any licensed abstractions within 1 km of the site and therefore represent a low sensitivity receptor.
Negligible	<u>Unproductive Strata</u> Unproductive Strata associated with the Glacial Till and Northwich Halite Formation are considered to represent negligible sensitivity receptors.

Existing Source – Pathway – Receptor Linkages (Conceptual Site Model)

- 2.45 A preliminary Conceptual Site Model (CSM) was developed as part of the Phase 1 Assessment to identify the principal sources, pathways and receptors (i.e. potential pollutant Linkages).
- 2.46 At present the site is vacant and access to the site is strictly controlled. Soils are not subject to disturbance and therefore the risk to human health receptors associated with soil contamination is limited. The Phase I review concluded that based on the information available, at present the risk to human health receptors is considered to be low. If the site were easily accessible, then the risk would be considered higher due to the potential for exposure of shallow soils contaminants to site users.
- 2.47 There is the potential for the leaching of mobile contaminants present in Made Ground and shallow soils to shallow groundwater associated with the Made Ground and Alluvium. There is the potential for the lateral migration of such contamination in shallow groundwater to bodies of surface water in the vicinity of the site including Wade Brook. Analysis of samples taken from Wade Brook by Van Elle during 2009 identified contamination in the form of metals and trichloromethane; this may, however, be associated with other industrial sites in the area.
- 2.48 The low permeability Glacial Till which underlies the entire site is typically of low permeability and is likely to limit the migration of shallow groundwater and associated contamination to underlying strata. Due to the presence of the low permeability Glacial Till, lateral migration is likely to be

limited to shallow Made Ground and the Alluvium only. The likelihood of contamination impacting the bedrock aquifer is therefore considered to be low.

- 2.49 In summary, based on the available information, at present soil and groundwater contamination could theoretically have an impact on human health receptors (if the site were easily accessible and soils were subject to disturbance) and controlled waters (primarily Wade Brook).

Mitigation Measures Adopted as Part of the Development

Construction Environmental Management Plan

- 2.50 A Construction Environment Management Plan (CEMP) has been developed and is at Appendix 2.C in Volume 3 of the ES. The purpose of this is to set out the measures that will be adopted by the applicant and its construction contractors to control environmental effects during the construction phase (including removal of the existing foundation slabs), and ensure appropriate mitigation is provided where necessary. Contractors will be required to prepare detailed method statements for implementing the mitigation measures and best practice procedures in the CEMP. By these means, temporary impacts of construction will be avoided or minimised.
- 2.51 The CEMP includes measures to address the following issues relevant to geology, hydrogeology and ground conditions:
- prevention of the mobilisation of soil and soil contaminants through the generation of dust and surface water runoff;
 - protection of watercourses (i.e. Wade Brook);
 - appropriate storage of fuel and other potential contaminants that are temporarily held on site during the construction phase;
 - containment and disposal of any leaks or spillages of potentially polluting substances ;
 - details of how any unexpected contamination identified during the construction phase would be assessed and treated;
 - maintenance of a 'clean/dirty area' regime, if contamination is identified;
 - risk assessments to ensure the safety of construction personnel associated with exposure to exposed soils (and any associated contaminants);
 - details of how soil as a resource will be protected during the development phase;
 - details of how the contractor will ensure that any materials imported to site (e.g. aggregates/soils) are suitable for use.
- 2.52 Any areas for the storage of bulk materials including oils, fuel and chemicals will be designed and managed according to current best practice and in compliance with prevailing legislation and Environment Agency guidance. Construction laydown areas will be demarcated, with hardstanding and bunded storage areas (or use of self-bunded tanks) for fuel or other liquids required. Internal gravelled roadways will be laid out for construction traffic. A wheel-washing

station will be set up at the site entrance to minimise track-out of mud onto the access road and consequent dust generation. Where required (e.g. in areas of car parking), the construction site drainage surface water system will be fitted with oil interceptors. These measures are detailed in the Drainage Strategy at Appendix 8.A in Volume 3 of the ES.

- 2.53 Procedures will be in place to ensure that any leaks or spills are contained, collected, then removed from site in an appropriate manner (e.g. through the use of absorbent material, bunding or booms). An emergency action plan will be formulated which all site personnel will have read and understood.
- 2.54 Should any previously unidentified contamination be detected at the site during the construction phase, or a risk of ground gas ingress into future site buildings be identified, then such risks would be mitigated through measures that would be designed through an options appraisal process. A formal Remediation Strategy would be submitted to the Local Planning Authority for acceptance prior to any remediation works being undertaken.

Phase 2 Site Investigation and Geo-Environmental Risk Assessment

- 2.55 Prior to development of the site, a further Phase 2 Site Investigation will be undertaken. The objectives of this assessment will be to further characterise ground conditions and investigate the potential presence of contamination and ground gas across the site associated with identified potential sources.
- 2.56 On completion of the site investigation, a risk assessment will be undertaken based on the proposed end use of the site. Any unacceptable risk to human health receptors and controlled waters will be considered, and where unacceptable risk exists, appropriate mitigation will be provided. This would be undertaken through a formal Remediation Strategy, with remediation work being subject to validation on completion where appropriate.
- 2.57 It is anticipated that this Phase 2 Site Investigation will be undertaken after submission of the planning application, in order that the findings, risk assessment and if required the Remediation Strategy will be available to satisfy any pre-commencement condition at the time of planning consent, should that be granted.

3 Assessment

Construction Effects

- 3.1 The purpose of the aforementioned CEMP is to control and mitigate potential environmental effects during the construction phase. With effective implementation of the CEMP, no significant construction phase effects associated with ground conditions are anticipated. The magnitude of impacts potentially arising during the construction phase associated with ground conditions is therefore considered to be negligible and consequently the significance of the effect is likely to be **neutral**.

Associated development

- 3.2 Associated works may also be undertaken by the applicant or third parties to improve the existing shared private access road through Lostock Works, within the planning application boundary. This may involve widening at certain points to ease passing and turning of HGVs. This widening would be limited (anticipated to be <3m) as the access road is constrained by the industrial facilities through which it runs. Re-surfacing some sections may also be undertaken if necessary. Any works undertaken would be in agreement with the land owner and other road users.
- 3.3 Given the access road will be low permeability hardstanding, it is likely to decrease surface water infiltration and therefore decrease mobilisation of potential contamination. The hardstanding will also provide a physical barrier between soil contamination and human health receptors. It is therefore considered that the impacts to soil and groundwater from this associated development during the construction phase is likely to be **neutral**.

Operational Effects

- 3.4 The facility operator will implement an ISO14001 or equivalent Environmental Management System (EMS), which among other measures will define good housekeeping practices for the site to control the potential for leaks and spills and to ensure leaks and spills are prevented from impacting soils and groundwater. Waste will only be unloaded in the waste reception hall, where any spillage can be easily cleaned into the waste bunker. Hoses for washing down this area and a separate washing station for HGVs are provided in the site design.
- 3.5 Environmental management of the site will be regulated by the Environment Agency using the facility's environmental permit, which will specify operating techniques and will include a regular schedule of audits. The permit will also regulate discharges and emissions from the facility, specifying limits, monitoring and reporting of these. This process will ensure that any potential emissions to soil or groundwater are controlled appropriately.
- 3.6 For areas of landscape planting, a clean cover system of suitable growth medium (approximately 300mm in thickness) should be provided to establish a barrier between any potential current contamination and future site users.

- 3.7 It is proposed that an area of the site to the north of the car park (shown in Figure 4.Q in Volume 4 of the ES), which is currently scrub land, will be retained if possible in its existing condition (but with any large concrete items broken up) in order to retain the existing habitat type that supports the fragrant orchid found on site. Shallow soils in this area will be subject to analysis and risk assessment. If necessary, suitable site-won materials would be used to form a clean cover system in this area; this will be subject to validation to the same standard as clean cover growth medium that will be introduced elsewhere on the site. If the existing site-won materials are not suitable due to contamination, alternative suitable materials (i.e. imported calcareous gravel) will be used as required.
- 3.8 The proposed use of the site will result in extensive areas of the site being covered with hardstanding and building cover. This will limit the volume of surface water that is allowed to infiltrate to ground, thereby limiting the volume of contamination that is leached from shallow soils to shallow groundwater. It also have the benefit of providing a physical barrier between existing shallow soil contamination and human health receptors thereby breaking physical contact pathways which include dermal contact, ingestion and dust inhalation. The presence of extensive areas of hardstanding and building cover is therefore likely to limit the risk to human health receptors and controlled water receptors.
- 3.9 The presence of hardstanding will also limit the potential for spills/leaks to enter ground and will prevent contaminants emitted to air from being deposited in soils.
- 3.10 It is therefore considered that the impact to soil and groundwater during the operational phase will be **neutral** (or **beneficial** if any identified existing contamination is subject to remediation and/or specific mitigation).

Further Mitigation

- 3.11 If any significant contamination is encountered during the construction phase, this will be fully investigated, a risk assessment will be undertaken and, if necessary, remediation will be undertaken/mitigation provided in consultation with the Local Planning Authority.

Future Monitoring

- 3.12 Further to the soil assessment and groundwater/ground gas monitoring that will be undertaken as part of the Phase 2 Site Investigation, a requirement for additional future monitoring is not likely to be necessary from a ground conditions perspective. There will be no discharges to soil or groundwater discharges from the proposed development.

Cumulative Effects

- 3.13 Effects relating to soil and ground conditions are site-specific and planned developments in proximity to the proposed development are unlikely to adversely impact shallow soils beneath the site. With regard to groundwater receptors, it is assumed that any development schemes in the

surrounding area would have sufficient mitigation measures in place during ground works to prevent adverse effects in accordance with the NPPF and relevant legislation.

- 3.14 A cumulative impact would be reliant on a number of factors including construction phases coinciding and industry standard mitigation measures being ineffective at more than one site at a time. The requirements of the Local Planning Authority under the NPPF (i.e. Phase 1 and Phase 2 contamination assessments and CEMPs) should effectively mitigate the effects associated with each of the sites, thereby ensuring there is not a significant cumulative effect.

Residual Effects

- 3.15 A summary of the potential effects of the proposed development and appropriate mitigation measures is presented in the table below:

Table 3.1: Summary of Effects

Issue	Potential effect	Mitigation	Residual effect
Construction effects			
<u>Human health</u>			
Exposure of construction workers, workers on adjacent sites and local residents to existing contamination in the soil/groundwater.	Adverse	Control and mitigation measures provided by implementation of the CEMP	Neutral
Controlled waters			
Existing contamination in the soils and/or groundwater impacting controlled waters receptors as a result of mobilisation caused by construction phase. Contamination introduced during the construction phase e.g. from diesel leakages from plant machinery.	Adverse	Control and mitigation measures provided by implementation of the CEMP	Neutral
Operational effects			
<u>Human health</u>			
Existing contamination in the soils and/or groundwater mobilising and contaminating a larger area and impacting human health receptors	Adverse	Contamination encountered during the Site Investigation or development process will be appropriately assessed and, if necessary, remediated prior to operation of the site. In addition, the proposed development will result in the extensive areas being covered in building cover or hardstanding, which will break physical contact pathways between future site	Neutral (or beneficial)

		users and any soil contaminants.	
<u>Controlled waters</u>			
Existing contamination in the soils and/or groundwater impacting controlled waters receptors as a result of mobilisation.	Adverse	Contamination encountered during the site investigation or development process will be appropriately assessed and, if necessary, remediated prior to operation of the site. In addition, the proposed development will result in the extensive areas being covered in building cover or hardstanding. This will limit the infiltration of surface water and the potential for mobilisation of any contaminants in Made Ground that may leach to groundwater.	Neutral (or beneficial)
Contamination to be introduced as a result of operational activities	Adverse	An ISO14001 or equivalent Environmental Management System (EMS) will be implemented, which will include measures to minimise the potential for spills and leaks to impact soil and groundwater. The site will operate under an environmental permit regulated by the Environment Agency. This will specify operating techniques and will include a regular schedule of audits. The permit will also regulate discharges and emissions from the facility, specifying limits, monitoring and reporting of these. This process will ensure that any potential emissions to soil or groundwater are acceptable.	Neutral

4 Conclusions

- 4.1 The site and surrounding area have been occupied by industrial land uses, primarily associated with chemical manufacture, since the 19th century. The site itself has historically been occupied by a bleach works and chlorine plant. The western area of the site has been subject to waste tipping and Made Ground is known to be present on the site to a depth of up to 5.0m bgl.
- 4.2 A site investigation undertaken during 2009 identified elevated concentrations of metals in soils across the site. It also identified localised contamination in the form of PAHs and VOCs (trichloromethane and trimethylbenzene). Groundwater samples contained elevated concentrations of a range of metals and localised elevated concentrations of hydrocarbons, PAHs and VOCs (chloroethane, dichloroethane and trichloroethane). Carbazole and dibenzofuran were identified at sporadic locations in soil and groundwater. Surface water samples collected from Wade Brook were found to contain elevated concentrations of metals and VOCs (trichloromethane and bromochloromethane). Ground gas monitoring identified methane and carbon dioxide in several boreholes across the site.
- 4.3 At present there the potential for existing contamination associated with soil and groundwater to impact receptors.
- 4.4 Prior to development of the site a Phase 2 Site Investigation will be undertaken and the risk assessment will be updated. Any unacceptable risk to human health receptors and controlled waters will be considered and where unacceptable risk exists, appropriate mitigation would be provided. This would be undertaken through a formal Remediation Strategy and remediation, once implemented, would be subject to validation where appropriate. It is anticipated that this Phase 2 Site Investigation will be undertaken after submission of the planning application, in order that the findings, risk assessment and if required the Remediation Strategy will be available to satisfy any pre-commencement condition at the time of planning consent, should that be granted.
- 4.5 Construction phase effects would be controlled and mitigated through the implementation of a CEMP, with measures detailed at Appendix 2.C.
- 4.6 Operational phase effects would be controlled by an ISO14001 or equivalent EMS and the installations environmental permit that would be regulated by the Environment Agency.
- 4.7 In summary, adverse environmental impacts relating to soil and groundwater during construction and operation would be prevented by measures incorporated into the development scheme. The effects of the proposed development are assessed to be neutral or potentially beneficial if contamination is identified and remediated.

Glossary

ES – Environmental Statement

EQS – Environmental Quality Standards

FOC – Fraction of Organic Carbon

OS – Ordnance Survey

PAH – Polycyclic Aromatic Hydrocarbons

PCB – Polychlorinated Biphenyls

S4UL – Suitable for all use

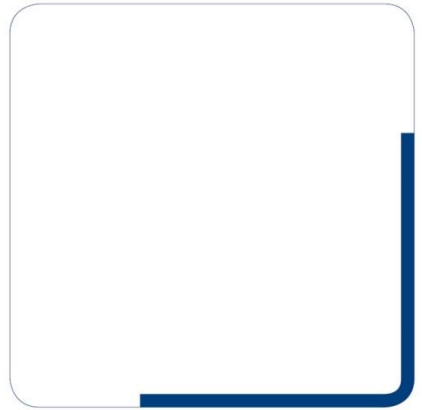
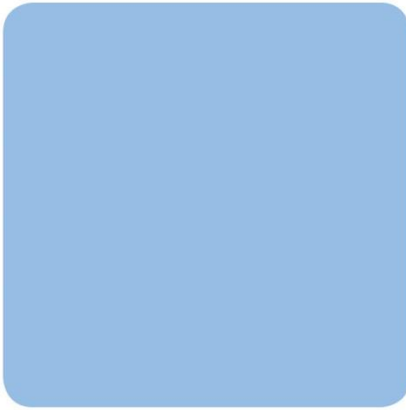
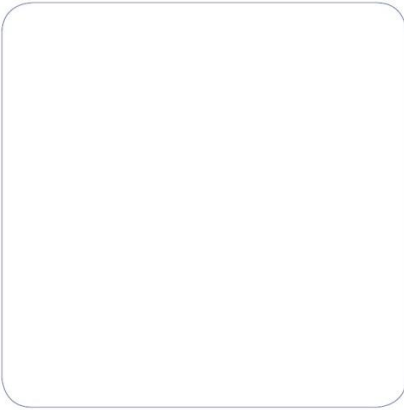
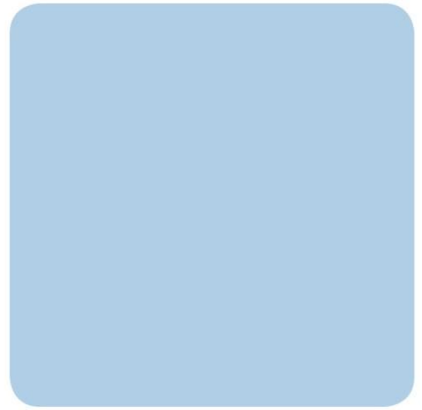
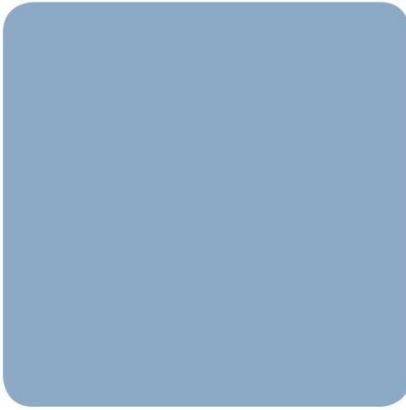
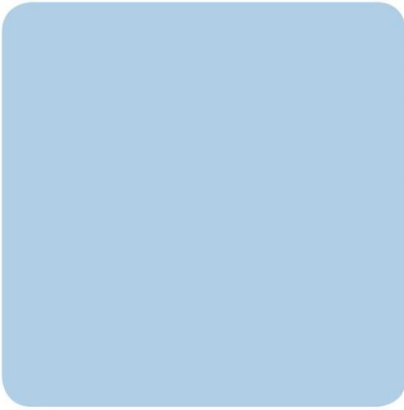
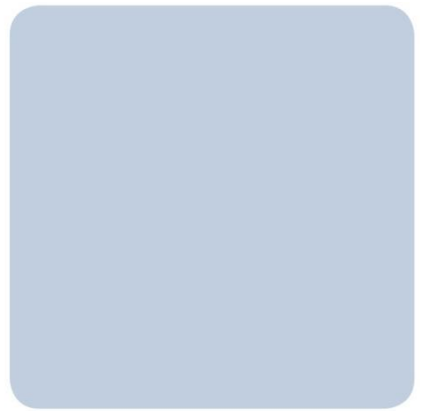
SVOC – Semi Volatile Organic Carbon

TPH-CWG – Total Petroleum Hydrocarbons Criteria Working Group

VOC – Volatile Organic Carbon



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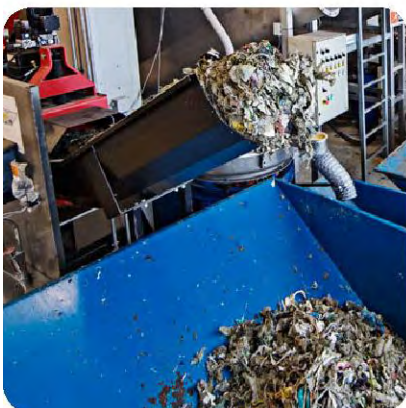
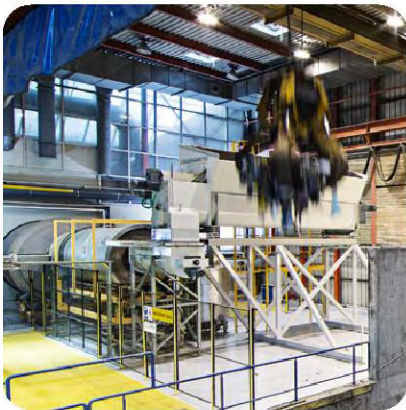


Appendix 9.A: Phase 1 Geo-Environmental Risk Assessment



Appendix 9.A: Phase 1 Geo-Environmental Risk Assessment

REnescience Northwich



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Quality Management

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DISCLAIMER

This report has been prepared in the RPS Group Quality Management System to British Standard EN ISO 9001:2008

RPS has used reasonable skill and care in completing this work and preparing this report, within the terms of its brief and contract and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the stated scope. This report is confidential to the client and we accept no responsibility to third parties to whom this report, or any part thereof, is made known. The opinions and interpretations presented in this report represent our reasonable technical interpretation of the data made available to us. RPS accepts no responsibility for data provided by other bodies and no legal liability arising from the use by other persons of data or opinions contained in this report.

Except for the provision of professional services on a fee basis, RPS does not have a commercial arrangement with any other person or company involved in the interests that are the subject of this report.

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Annex 9.A.1: General Notes

Annex 9.A.2: Site Photographs

Annex 9.A.3: Database Information

Annex 9.A.4: Part IIA (The Contaminated Land Regime)

1 Introduction

- 1.1 RPS Health, Safety & Environment (RPS) was commissioned by *DONG Energy* to undertake a Phase I Geo-Environmental Risk Assessment of the site of the proposed REnescience Northwich development, on land at Lostock Works, Northwich, CW9 7ZR. This report forms an appendix to Chapter 9: Geology and Ground Conditions of the Environmental Statement (ES) for the proposed development.
- 1.2 The proposed development is described in Chapter 2 of the ES. A site location plan is shown in Figure 2.A of the ES and the proposed development layout plan is shown in Figure 2.D.
- 1.3 The principal aim of the risk assessment was to determine whether there was the potential for contamination to be present, which could impact future site use/occupiers and the wider environment, significantly constrain the proposed use of the site or affect the development process. The site's suitability for its proposed use has been determined in accordance with the guidance outlined in the National Planning Policy Framework.
- 1.4 The environmental review comprised:
- i) a site inspection;
 - ii) a review of the historical land uses to assess the potential for ground contamination;
 - iii) a review of the environmental setting to assess the sensitivity of the surrounding area to contamination/pollution;
 - iv) consultation with the regulatory authorities to establish whether any significant environmental issues have been recorded, which may impact on the site;
 - v) qualitative environmental risk assessment of the site's current and proposed use; and
 - vi) a review of existing relevant reports.
- 1.5 The environmental risk assessment presented within this report has been prepared having regard to the contaminant-pathway-receptor model introduced under Part 2A of the Environmental Protection Act 1990, and associated guidance on contaminated land published by the Department of Environment, Food and Rural Affairs (and its predecessors). The methodology is essentially a qualitative assessment, based on the identification and evaluation of potential 'contaminant-pathway-receptor contaminant linkages'. On the basis of this risk assessment, consideration has been given to the potential for the site to be designated as 'contaminated land' (under the local authority contaminated land inspection strategy) as defined in Part 2A of the Environmental Protection Act 1990. See Annex 9.A.4 for further details of the Environmental Protection Act 1990 and the risk assessment process.
- 1.6 The scope of the report is in general accordance with:

- British Standard requirements for the *'Investigation of potentially contaminated sites - Code of practice'* (ref. BS10175:2011);
- *'Model Procedures for the Management of Land Contamination' - Contaminated Land Report (CLR) 11*;
- *National Planning Policy Framework (2012)*; and
- *DEFRA Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012)*.

1.7 Where appropriate, consideration has also been given to the following:

- the potential for environmental liabilities to occur under other associated regimes, for example the Water Resources Act 1991 and the Environmental Damage Regulations 2009; and
- key constraints on site redevelopment (if proposed), including the impact of other environmental issues (e.g. asbestos, flooding, ecology);

1.8 Details of the limitations of this type of assessment are described in Annex 9.A.1.

2 Land Use

Site Inspection

- 2.1 This section of the report is based upon observations made during a site visit on the 19th May 2015. The site location is shown in Figure 2.A in the ES. Selected site photographs are presented as Annex 9.A.2.

The Site

Section	Description
Background information:	<p>The proposed development site is located within the wider Lostock Works off the A530 Griffiths Road, near Northwich and Lostock Gralam, Cheshire. The national grid reference is 367920, 374201. The main site (excluding the shared access road within Lostock Works) is approximately 3.37 ha in size.</p> <p>The site is accessed from the south via an existing private road serving the cluster of chemical industry facilities on the Lostock Works site, from a junction with the A530 which is approximately 500 m to the south of the proposed development site boundary.</p>
Site description:	<p>The site is brownfield land that was previously used for chlorine manufacturing until 2001. At present, the site is cleared, with only some foundation slabs, hardstanding/roadways and a disused one-storey security hut outside the entrance gate remaining. The site is enclosed by a palisade fence. An electrical substation is located adjacent to the south east of the site.</p>

The Surrounding Area

- 2.2 The proposed development site is set in a predominantly industrial area of existing and former chemical industry works operated currently by Tata Chemicals, INEOS and Solvay, and previously by ICI and Brunner Mond among other firms.
- 2.3 At the time of the site inspection, neighbouring land consisted of the following:

Direction	Description
North:	A railway line is close to the north of the site (separated from it by a private road and railway sidings) and a car retailer is approximately 50 m beyond. Residential housing is located approximately 225m to the north of the site.
East:	Solvay chemical works, Tata Chemicals chemical works, INEOS brine purification plant are located adjacent to the east.
South:	An extension of the Solvay Specialty Chemical factory is located approximately 45m to the south of the site with a railway siding approximately 10m beyond.
West:	Derelict land is located adjacent to the west of the site.

- 2.4 Wade Brook is located approximately 15m to the south of the site and flows in a westerly direction.
- 2.5 The closest residences are on the north side of the A559 Manchester Road, which is approximately 180 m to the north of the site, separated from it by rail sidings, a tree belt and area of open space, warehouses and commercial developments, and the A559. There are further residences and

commercial land uses along Manchester Road and around the A559 and A530 junction to the east, between the site and Lostock Gralam.

- 2.6 To the south of the site is Griffiths Park, a former lime bed and landfill that has been redeveloped into a park/recreation area. This is separated from the site by a rail siding, conveyor structure and chemical recycling works, adjacent to the park's northern boundary.

Site History

Historical Map Review

- 2.7 The following review is based on past editions of readily available Ordnance Survey (OS) maps. These include scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,650 dated 1880 to 2015. Selected historical maps are presented as Figures 9.B to 9.J in Volume 4 of the ES.

On-Site Land Uses and Features	Position	Dates	
		From	To
Former Roman road running in a NW-SE direction in the eastern part of the site	E	1880	1910
Pond (possibly later infilled)	S	1880	1882
Lostock Bleach Works	Central/NE	1898	1938
Tank farm	Central/N	1898	1938
Pumping station	W	1898	1938
Earthworks	W and S	1898	1938
Mineral railway running from the SW to the central/northern areas of the site.	W and N	1898	1938
Site cleared (former Lostock Bleach Works not present)	Site	1954	1964
Circular earthworks (former chemical waste tip)*	W	1954	1977
Railway lines across site	All	1954	1976
Unspecified works**	Centre	1976	2013
Tanks	W and S	1993	2013
Electrical substation	NE	1993	2013

* Information reviewed by RPS (Figure 10 of Soil and Groundwater Contamination Assessment Stage 1 – Historical Review. ICI Group February 1996) indicates this is a former tip.

** It is understood that this was a chlorine plant with asbestos handling station until circa 2001 and that all buildings on the site have been cleared to slab level in 2013.

Surrounding Land Uses (250m radius)	Orientation	Distance	Dates	
			From	To
Cheshire Lines Railway	N	Adjacent	1882	Present
Mineral railway	W & S	Adjacent	1898	1910
Lostock Bleach Works (extension of onsite works)	E	Adjacent	1898	1938
Chemical works	E	Adjacent	1977	Present

Surrounding Land Uses (250m radius)	Orientation	Distance	Dates	
			From	To
Earthworks	S	Adjacent	1977	Present
Electrical substation	SE	Adjacent	1993	Present
Pumping station	W	75m	1910	1938
Refuse tip	N	80m	1963	1963
Brick & tile works	NW	100m	1898	1911
Mineral railway and sidings	S & E	100m	1910	Present
Gasometer	E	120m	1898	1910
Shafts	W	150m	1910	1938
Salt works and salt pans	SW	150m	1899	1938
Waste lime reservoirs (become infilled as spoil tips)	SE	200m	1910	2006
Earthworks	S	200m	1910	1938
Brick works	NW	200m	1882	1910
Brick works	N	200m	1882	1899
Chemical works	E	200m	1954	Present
Pipe lines	N	200m	1977	Present
Unspecified works	SE	225m	1977	1993
Lostock works	SE	250m	1899	1938

2.8 The site is located in a larger area that has been used for industry and chemical manufacture for nearly 200 years. The Trent and Mersey Canal was constructed in 1777, maps of the area from the early 19th century indicate likely marl or salt pits among rural land-uses, and the Manchester to Northwich railway was completed in 1863. Soda ash and bleaching powder production commenced in the Lostock Works area in the late 18th century and much of the surrounding land, particularly to the south west and east, has been used for lime waste disposal associated with soda ash manufacture. During the First World War it is understood that ammonium nitrate production for use in explosives was undertaken at the soda works. Later, during the Second World War, a range of products were made on the Lostock Works site at the request of the Ministry of Supply, including chlorine, mono chloro-benzene and carbon tetrachloride.

2.9 Within the boundary of the proposed development site itself, historic records show use for arable and pasture fields in 1845 as part of the Overstreet Farm estate, but by 1897 or earlier the site had become part of the Bowman Thompson & Co Ltd works, with buildings, drains, brine pipes and an acid main marked on a works plan from 1897 and OS map from 1898. The 1998 OS map records this as Lostock Bleach Works. In 1900 the Bowman Thompson & Co Ltd works were taken over by Brunner Mond, and by 1910 the development site lay within a heavily industrialised area. OS maps from the time of the second world war show no features on the Lostock Works site (presumably for security reasons), but by 1945 the proposed development site itself had been cleared of buildings.

- 2.10 There is potential for the presence of soil and groundwater contamination across the area associated with the industrial historical land uses. Historical use of the site, primarily as a bleach works and a chlorine works, has the potential to have contributed to soil and groundwater contamination. There is also the potential for contamination and the generation of ground gas associated with land raising and infilled ground on site and across the wider area. The former tip located in the western area of the site is of particular note with regard to the likelihood of made ground. There is potential for soil/groundwater contamination in relation to former substations that were present on site.
- 2.11 There is the potential for a wide range of contaminants associated with historical use of the site and surrounding area which may include, but are not limited to, metals, asbestos, inorganic ions including ammonium, sodium, chlorides, chlorates, nitrate sulphate, fluorides, acids and alkalis (sodium hypochlorite – bleach). Potential organic contaminants include PAHs, PCBs, phenols, petroleum hydrocarbons, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins and furans.

3 Environmental Setting, Consultations & Additional Information

Geology & Hydrogeology

3.1 Based on British Geological Survey mapping (1:50,000-scale) and the Environment Agency's (EA's) Groundwater Vulnerability mapping (1:100,000-scale), the stratigraphic sequence and aquifer classifications beneath the site are as follows:

Strata	Description & Approximate Thickness	Aquifer Classification	Environmental Sensitivity
Alluvium (along southern boundary)	Granular layers of silt, sand, peat and basal gravel. Unknown thickness in vicinity of the site.	Secondary A Aquifer	Low/Moderate
Till - Diamicton	Interbedded clay with sand and gravel-rich lenses. Up to 41m in thickness in the vicinity of the site.	Unproductive Strata	Low
Sidmouth Mudstone (sub-crops along eastern boundary only)	Mudstone with siltstone beds. Approximately 362m in the vicinity of the site.	Secondary B Aquifer	Low/Moderate
Northwich Halite Formation (formerly Lower Keuper Saliferous beds)	Interbedded Halite and Mudstone. Up to approximately 286m in the vicinity of the site	Unproductive Strata	Low
Bollin Mudstone (formerly Middle Keuper Marls)	Interbedded Mudstone and Siltstone. Up to approximately 360m in thickness in the vicinity of the site.	Secondary B Aquifer	Low/Moderate

3.2 Made Ground is likely to be present across the site as a result of historical land uses and associated earthworks including the presence of artificial embankments/ land raising, the former tip and past construction/demolition activities.

3.3 Van Elle (Appendix 9.B) encountered Made Ground to a maximum depth of 5m.bgl in the west of the site in the area indicated to have been a former tip.

3.4 BGS borehole log ref. SJ67SE68 located approximately 270m to the west of the site encountered a thickness of approximately 41m of superficial deposits described as Boulder Clay with sand lenses (Till – Diamicton). These were indicated to be further underlain by the Lower Keuper Saliferous beds (now the Northwich Halite Formation) encountered to 72m.bgl the maximum depth of the borehole.

3.5 BGS Mapping Sheet Chester 109 Solid Edition indicates the King Street Fault transects the east of the site in a north/south orientation. Sidmouth Mudstone sub-crops beneath the superficial deposits to the east of the fault, which are indicated to be dipping in an easterly direction at an orientation of 5°. The Northwich Halite Formation sub-crops beneath the remainder of the site to the western side

of the fault and is indicated to be dipping in an easterly direction at an orientation of 4°. The Bollin Mudstone is indicated to be present at depth beneath the Northwich Halite Formation; it is not shown to sub-crop on the site.

- 3.6 The Alluvium deposits (present on the southern boundary) are classified as a Secondary A Aquifer. These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers. The Till – Diamicton and Northwich Halite Formation are classified as Unproductive Strata. These formations have a low permeability and have negligible significance for water supply or base flow. The Sidmouth Mudstone and Bollin Mudstone are Secondary B Aquifers. These formations are generally formed of lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.
- 3.7 There is potential for shallow perched groundwater to be present in the Alluvium Deposits which may be in hydraulic continuity with Wade Brook. There is therefore the potential for lateral migration of contamination (if present) within the Alluvium to Wade Brook located 15m to the south of the site. The presence of low permeability Till – Diamicton across the majority of the site is likely to limit the vertical and lateral migration of shallow groundwater and associated contaminants thereby providing protection to the bedrock. Groundwater is expected to depth within the bedrock.
- 3.8 According to EA data, the site is not located in a groundwater Source Protection Zone.
- 3.9 According to the Groundwater Quality River Basin Management Plan published by the EA under the European Water Framework Directive (2000) the groundwater beneath the site has not been characterised.

Water

Surface Water

- 3.10 There are three watercourses within 1km of the site which are classified within a River Basin Management Plan published by the EA under the European Water Framework Directive (2000). A list of all nearby watercourses and water bodies is as follows:

Watercourse / body	Quality Classification	Approx. Distance and Direction from Site	Environmental Sensitivity
Wade Brook	Current Ecological Quality: 'Bad' Predicted Ecological Quality: 'Bad' Current Chemical Quality : N/A Predicted Chemical Quality: N/A	15m S	Low to Moderate
Wincham Brook	Current Ecological Quality: 'Good' Predicted Ecological Quality: 'Moderate' Current Chemical Quality : 'Fail' Predicted Chemical Quality: 'Fail'	334m N	Moderate
Trent & Mersey	Current Ecological Quality: 'Good'	401m E	

Watercourse / body	Quality Classification	Approx. Distance and Direction from Site	Environmental Sensitivity
Canal	Predicted Ecological Quality: 'Good' Current Chemical Quality : 'Fail' Predicted Chemical Quality: 'Fail'		Moderate

3.11 A surface water pond is indicated to be located approximately 70m to the northwest of the site, several drainage ditches are indicated to be located approximately 90m to the north of the site.

Fluvial / Tidal Flood Risk

3.12 According to the EA flood map, the site is not located within an indicative fluvial floodplain.

3.13 RPS has produced a separate flood risk, hydrology and drainage assessment for the site to support the planning application, in Chapter 8 of the ES and its appendices.

Surface Water Flood Risk

3.14 According to the EA surface water flood map, the site is within an area at low risk area of surface water flooding.

Water Abstractions

3.15 Information provided by the EA indicates that there is a record of one licensed groundwater abstraction and seven licensed surface water abstractions within 2km of the site. The details of these are as follows:

Licence Holder	Source	Use	Approx. Distance and Direction from Site
Brunner Mond (UK) Ltd	Surface	Cooling	351m E
ICI Limited Mond Division	Surface	Cooling and Manufacturing	357m E
Ineos Enterprises Limited	Surface	Chemicals: Process Water	382m NW
British Waterways Board	Canal	Not supplied	387m NE
Canal and River Trust	Surface	Other Industrial/Commercial/Public Services: General Use	394m NE
Daniel R Spibey	Groundwater	Amenity	1245m SW
Mr C R Garton	Surface	Other Industrial/Commercial/Public Services: Make-up or top up water	1578m SW
H. Platt & Sons Ltd	Surface	Agricultural Spray Irrigation	1745m SW

3.16 There are no records of potable water abstractions within 2km of the site. None of the surface water abstractions are situated directly downstream of the site.

Sensitive Sites / Designated Protected Areas

- 3.17 The site itself is not covered by any statutory nature conservation designations; however, the Plumley Lime Beds SSSI and the Witton Lime Beds SSSI are both located around 2.5 km from the site, to the east and northwest respectively.

Landfills and Waste Sites

- 3.18 Information provided by a number of sources (detailed below) shows that there are seven recorded licensed or known historical landfill sites and one waste treatment / transfer sites recorded within 500m of the site.

Source of Record	Licence Details	Waste Type and Details	Approx. Distance and Direction from Site
Landfill Sites			
Local Authority	Location: ICI Lostock, Near Rudheath	Not Supplied	80m S
British Geological Society	Name: No. 1 Tip. Location: Griffiths Park, Northwich	Not Supplied	84m S
Local Authority	Location: Manchester Road	Not Supplied	90m S
Environment Agency	Lapsed/cancelled	Alloprene, Asbestos, Calcium Oxide, Calcium Sulphate, contaminated bags, Untreated waste, Ind. Non-Haz Inert Non Flam, Ind. Non-Haz Potentially Combustable, Sodium/Potassium Carbonates, Sulphides, Thiocyanate, Winnofil	182m S
Historical Landfill	Last input date: 22 nd April 1944	Sludge	349m S
Local Authority	Location: Edward Street, Northwich	Non-Notifiable, Industrial/Commercial/Domestic Refuse	400m SW
Scrap Yards & Waste Transfer / Treatment Sites			
Environment Agency	Record superseded	Alloprene, Hydrochloric Acid, Contaminated Water	346m S

- 3.19 The landfill sites within 400m of the site are understood to have largely been for the disposal of industrial waste and therefore the potential for the presence of large volumes of degradable materials and associated ground gas is limited.

Regulatory Consultation

3.20 An email received from Kim Everson of the EA dated 1st July 2015 indicated the presence of three Local Authority landfills within 250m of the site. Details provided are as follows:

HLD reference	License Holder	Eastings /Northings	Waste Deposited:	Approx. Distance and Direction from Site
EAHLD17106	ICI Chemicals and Polymers Limited	367900 373800	Not shown	80m S
EAHLD15612	ICI Chemicals and Polymers Limited	367800 373700	Lime and Ash Wastes, Winnofil, Alloprene, Brine Plant Scale, Distiller Scale, Fly Ash, Oil Filled Boiler Dust, Inert Non-Hazardous Non Flammable Solid industrial waste, Uncontaminated Soil.	160m S
EAHLD17109	ICI Chemicals and Polymers Limited	367700 373600	Lime and ash wastes, alloprene, brine plant scale, distiller scale, fly ash, oil fired boiler dust, inert non-hazardous non-flammable solid industrial waste, Sodium bicarbonate contaminated with 1-2% free ammonia and canteen waste	240m S

3.21 A further five landfills were indicated to be present between 500m to 1km from the site.

3.22 The EA did not hold any records with respect to 'contaminated land' under the provisions of Part IIA of the Environmental Protection Act 1990.

Pollution Incidents

3.23 EA data indicates that there are records of twenty five records of pollution incidents to controlled waters within 500m of the site. These are outlined in the following table:

Location/Address	Date	Severity of Incident and Type	Approx. Distance and Direction from Site
Brunner Mond, Lostock Works	04/08/1999	Minor Inorganic Chemicals: Sodium Chloride	85m N
Not Supplied	15/09/1994	Minor Oils	121m SW
Wade Brook, Brunner Mond	10/03/1991	Minor Oils	142m E
ICI Lostock	22/01/1998	Minor Chemicals	162m E
Not supplied	14/04/1996	Minor Alkali Chemicals	164m E
ICI Chemical & Polymers	01/09/1997	Minor Oils	183m SW
Lostock Gralam	15/08/1997	Minor	207m N

Location/Address	Date	Severity of Incident and Type	Approx. Distance and Direction from Site
		Chemicals	
Not supplied	27/02/1991	Significant Oils	211m NE
Not Supplied	04/08/1994	Significant Oils	227m W
Cheshire	01/10/1996	Minor Chemicals	255m E
Cheshire	03/07/1996	Minor Alkali Chemicals	296m NE
Brunner Mond, Lostock	11/02/1997	Minor Oils	300m NE
Cheshire	10/02/1996	Chemicals Minor	336m N
Not Supplied	23/08/1994	Chemicals Minor	341m E
Brunner Mond, Lostock Site	23/08/1998	Chemicals Minor	356m E
Lostock Works, Wade Brook	04/08/1999	Inorganic Chemicals Minor	357m SW
Lostock, Northwich	11/10/1999	Inorganic Chemicals Minor	390m NE
ICI Lostock, Griffiths Road	03/11/1998	Chemicals Minor	402m SE
Trent & Mersey Canal, Griffiths Road	10/07/1998	Miscellaneous Minor	449m E
ICI Lostock	18/12/1997	Chemicals Minor	450m E
Not Supplied	23/04/1991	Industrial Effluent Minor	466m SW
Marbury lane, Northwich	24/06/1999	Inert: Other Minor	469m SW
ICI Lostock - Brine Purification Plant	25/03/1998	Chemicals Minor	477m E
Griffiths Road, Lostock	11/02/1997	Chemicals Minor	479m E
River Lostock, Northwich	31/03/1998	Surcharged Sewage Minor	491m NE

3.24 None of the pollution incidents recorded are indicated to be within the site boundary. No records of prosecutions relating to controlled waters are recorded within 2km of the site.

Authorised Processes

Environmental Permits

3.25 EA and Local Authority data indicates that there are three processes regulated by an Environmental Permit (under the Environmental Permitting Regulations 2010 as amended) within 500m of the site.

Licence Holder	Permitted Activity	Approx. Distance and Direction from Site
Brunner Mond*	Inorganic chemical processes within the chemical industry	127m E
Brunner Mond	Cement/lime manufacture and associated processes within the mineral industry	133m E
Solvay Speciality Chemicals	Inorganic chemical processes within the chemical industry	235m E

* Envirocheck Report dated May 2015 (presented as Annex C) indicates this permit was held by Brunner Mond for the record dated 2000. It is likely that the permit for this site has now been transferred to Tata Chemicals who currently occupy the site.

3.26 None of the permits are indicated to relate to the site; they are all indicated to be related to the Solvay Speciality Chemicals site currently located adjacent to the east of the site.

COMAH Sites

3.27 There are two records of operations under the Control of Major Accident Hazards (COMAH) within 500m of the site. These are listed below:

- Imperial Chemical Industries Ltd, Northwich, Cheshire, CW8 4DJ; 292m east of site. Type: Lower Tier. Status: Record ceased to be supplied under COMAH regulations.
- INEOS Enterprises Ltd, Ethylene Plant Lostock, Lostock Site, Griffith Road, Northwich, Cheshire, CW9 7NY; 292m E of site. Type: Lower Tier. Status: Active (Envirocheck 2015 report indicates this is active, however it is understood by RPS this may now have lapsed as the plant may have been demolished).

3.28 It is understood by RPS that the Chlorine Work present on the site was a registered COMAH site which was removed upon its demolition in 2013.

Explosive Sites

3.29 There are no records of registered explosive sites within 500m of the site.

Radon

3.30 British Geological Survey data indicates that the site is situated in a lower probability radon area, as less than <1% of properties are above the action level.

Coal Authority

- 3.31 According to the Coal Authority Interactive mapping system, the site is not located in a Development High Risk Area or a Coal Mining Reporting Area. The Coal Mining Reporting Area is the known extent of coal mining activity and is used to determine whether a coal mining report is required for property transactions and the conveyance process. Therefore the potential for subsidence associated with coal mining is considered to be low.
- 3.32 A Coal Authority Ground Stability Report dated April 2009 indicates that the site is located within the Brine Compensation Area but is not within any consultation area prescribed by the Cheshire Brine Pumping Act 1950. It states that a notice of damage has not been filed in respect of the property and there has been no commutation of claims in connection herewith.
- 3.33 According to BGS data the nearest brine cavity is located approximately 650m west of the site. There are a further five brine cavities within 1km of the site.
- 3.34 Whilst the site is not indicated to be located above an area of past or current Halite mining, much of the previous extraction was undertaken prior to accurate records being kept. In addition a number of brine shafts and wells are located in the surrounding area. As a result there is potential for unrecorded mine workings to be encountered at the site. As the site has been developed previously without any obvious effects of mining or brining related subsidence it is considered that the risk is reduced.

Other Published Land Stability Data

- 3.35 British Geological Survey Ground Stability Hazard ratings for the site are summarised as follows:

Hazard	Hazard Potential
Collapsible ground	Very low
Compressible ground	Moderate
Ground dissolution	High
Landslide	Very low
Running sand	Low
Shrinking or swelling clay	Moderate

Existing Reports / Correspondence

- 3.36 RPS has been provided with the reports detailed below. RPS cannot vouch for the accuracy of the information provided within the reports.

Soil and Groundwater Contamination Assessment Stage 1 – Historical Review. ICI Group (February 1996).

N.B. The report covers the proposed development site and land that is adjacent to the east and south east which is currently the operational Solvay Speciality Chemicals site. In addition, the report makes specific reference to areas of land that were occupied by the Brine Purification Plant, Pearn's Pumphouse, and Ethylene Conditioning Area. The plan showing the location of these areas has not been provided but from the text descriptions it is understood that these features were not located on or immediately adjacent to the development site.

Report Summary:

- 3.37 The purpose of the report was to produce a historical review of the Lostock Site and identify areas of contamination in order to satisfy the requirements of the ICI Group SHE policies.
- 3.38 Salient information relevant to the Geo-Environmental assessment are summarised in the following sections.

Site Features

- 3.39 Please note that Figure 2 of this historical review, which shows the layout of the plant at the time of reporting, has not been provided. It is therefore difficult to pinpoint the exact location of site features.
- 3.40 The report indicates that Lostock Works was developed during the 1890s with a Bleach Works situated on the site of the (former) Chlorine Plant. The Bleach Works was demolished in 1935 and the Chlorine Plant was commissioned in 1978.
- 3.41 The layout of the Chlorine Plant was summarised as follows:
- Central area: Main process area including the Chlorine Cellroom, workshops, office and control room.
 - South: Chlorine and brine treatment. Liquid chlorine storage
 - Southeast (off site): Electrical apparatus (assumed location of existing substation)
 - West: Cooling towers
 - East: Caustic soda and sodium hypochlorite storage.
 - Northeast: Pilot Plant, Hydrogen Cooling and Blowing Plant and small substation.
- 3.42 The report states that 'the remainder of the site was covered by access road, hardstanding and gravelled areas with railway line to the north, west and south boundaries.'

Drainage

- 3.43 The report states that 'Surface water from buildings, roads and hardstanding are collected and discharged directly to Wade Brook'. 'Foul sewage is discharged into a separate system which flows via a septic tank into the Intermediate Collection Sump where it is pumped to the public sewer near James St.' 'Process effluents discharge into the miscellaneous effluents drainage system which drains to a sump and pumping tank adjacent to Wade Brook where it is mixed with asbestos slurry

from the Cellroom Workshop and, during emergencies, Winnofoil Plant Effluent. The mixed effluent is then pumped to No 9 Limebed at Griffiths Road.' (Situated approximately 180m south of the site) Other process effluent is indicated to drain to a pumping pit situated adjacent to Brine Treatment (southern area of the site) before disposal to the Limebeds a Griffiths Road.

Geology

- 3.44 Borehole data was reviewed as part of the report and gave insight into ground conditions. The report states that 'Made Ground was recorded to a maximum depth of 0.5m for the Brine Plant and a maximum of 3.4m at the chlorine plant. The Made Ground comprised of ashes, cinders, limestone, sand, clay and coke (the latter was found under the chlorine plant).' Boulder Clay was recorded beneath the site to a maximum depth of 12.5m.bgl. The report stated that 'perched groundwater was encountered within the boulder clay between 2.6m.bgl to 3.9m.bgl.'
- 3.45 Bedrock was not encountered within the boreholes but was understood in the report to be marls and siltstones/mudstones. The base of the mudstone was not recorded on any of the boreholes but it was understood to be approximately 500m in thickness in the vicinity of the site. The Sherwood Sandstone Formation is indicated to be at depth beneath the Mudstone.
- 3.46 The report states that 'there are piled foundation to a number of structures including Chlorine Absorption, Cellroom, Rectifier Bay and Liquid Chlorine Rail Loading.' And goes on to state that 'In general all piles are some 5 to 10m long and found on Boulder Clay.'

Chlorine Plant Process Operations

- 3.47 The report states that the *'Lostock Chlorine Plant was commissioned in 1977 with a peak output of 90,000te/year of chlorine from 100 diaphragm cells'*. The plant was also reported to produce sodium hypochlorite (bleach) and caustic soda (sodium hydroxide). *'Purified brine was filtered to remove insoluble calcium and magnesium and acidified with hydrochloric acid.'* *In the Cellroom brine is electrolysed into chlorine, hydrogen and caustic soda.'* *Chlorine treatment takes the form of cooling, filtration, drying with sulphuric acid before passing through a UV reactor to decompose any nitrogen trichloride. The chlorine is then compressed and liquefied before being pumped to liquid chlorine stock tanks.'* *'Any chlorine that is not liquefied together with chlorine containing vents is absorbed in caustic soda to produce sodium hypochlorite.'* *Asbestos slurry is intermittently discharged into the miscellaneous effluent stream which is directed to banded collection tanks adjacent to Wade Brook.'*
- 3.48 The report provides a table of raw materials that were used in the chlorine plant:

Raw Material	Source/Stocking Facility	Usage (Max)
Purified brine (25.5% sodium chloride with excess sodium carbonate and sodium hydroxide to pH 10)	By pipeline from Lostock Brine Purification plant. Bunded storage in 2 head tanks with capacity 142 te.	2500m ³ day
Hydrochloric acid 36%	By road tanker to bunded stock tanks of 30te capacity	5 te/day
Sulphuric acid (ROV-96%)	By road tank to bunded stock tanks of 64 te capacity	4 te/day
Asbestos	Dry asbestos delivered in bags 2 te storage	12 te/year
Nickel sulphate	From offsite supplier in drums 5 te storage	13 te/year
Ferric chloride	From offsite supplier in drums 1 te storage	4 te/year
KLEA 134a Refrigerant	Within liquefier tubes	4 te/year
Arbocel (insoluble cellulose based filter aid)	Bagged powder from offsite supplier 1 te of stock	7 te/year
Nalco Azlite 7536 (Corrosion inhibitor used in cooling water treatment)	Solution contained in 500 litre IBC in bunded area	1.5 te/year
Nalco 8301 Plus Dispersant used in cooling water	Solution contained in 500 litre IBC in bunded area	600kg/year
Chlorine (liquid)	3 stock tanks each with 400 te storage capacity. Stocking area bunded. Road loading facility.	90,000 te/year
Caustic soda (25% NaOH)	2 stock tanks. Total capacity 120 te. Export by road tanker. Not bunded.	150 te/day
Diaphragm cell liquor (DCL – solution of 10% NaOH and 15% NaCl)	Pumped directly by pipeline to Brine Purification Plant. Intermediate storage is in a segregated pit area.	30 te/day
Sodium hypochlorite (31% NaOCl)	3 stock tanks capacity 180 te. Exported by road tanker. Not bunded.	30 te/day
Sulphuric acid (BOV-77%)	2 bunded stock tanks. Capacity 64 te. Exported by road tanker.	4.5 te/day

3.49 The waste disposed at the chlorine plant listed in the report is:

Waste	Disposal Route	Quantity (Max)
Hydrogen	Via vent stack to atmosphere direct from cellroom.	2 te/day
KLEA 134a	Recycled or incinerated offsite	4 te/year
Acid/alkali effluent (Depleted brine from membrane cells, cooling tower treatment chemicals, dilute)	Pumped direct by pipeline to Brunner Mond limebeds for neutralisation, settling and discharge via licensed outfall.	160 m ³ /hr

hydrochloric acid drainings)	(Offsite)	
Miscellaneous effluent (Non acidic plant draining including asbestos slurry, hypo destruction catalysts, filter aid and ion exchange waste)	Drained to collection tanks then pumped to Brunner Mond limebeds for neutralisation, settling and discharge via licensed outfall. (Offsite)	75m ³ /hr

Historical Information

3.50 The report states that development of the site which housed the chlorine plant was first indicated on the ordnance survey plan of 1898 when a bleach works is indicated. A brine pumping station and salt evaporation plant is shown to the east and south east of the bleach complex. The 1949 plan no longer shows this development which is confirmed by a 1951 aerial photograph of the site. (It is believed that production ceased in the mid-1930s.) This indicated only a mound of waste material presumably created from the earlier operations. A survey of the site prior to the construction of the existing chlorine plant charts the remains of the waste mound and a coke stocking area which was removed before construction commenced. Chemicals involved during the Bleach Plant operations considering the technology at the time were probably as follows:

- salt cake (sodium sulphate);
- brine;
- sulphuric acid;
- hydrochloric acid;
- bleaching power (calcium hypochlorite);
- calcium hydroxide;
- magnesium dioxide; and
- coke and coal.

3.51 Some or all of these materials can be considered to form part of the waste mound and hence may be present in the former tip (as indicated by historic maps) upon which the former chlorine plant was sited.

Potential Contamination Sources:

3.52 The report states 'Because of the need to segregate sodium hypochlorite and acid containing streams to avoid free chlorine formation, the plant has a well contained effluent arrangement system.' It goes on to state 'the following sources are compiled in respect of the potential for the system to be bypassed or degraded:

- a) *Overflows from the sodium hypochlorite stock tank vents which bypass the normal overflow drainage system into the miscellaneous effluent stream.*
- b) *Overflows from the caustic soda liquor stock tanks. These are not bunded but there is no knowledge of contamination being caused in this way.*

c) *Defects in the acid/alkali and miscellaneous effluent collection systems.*

3.53 The report states 'there are no known regulatory concerns about persistent contamination from ICI activities on the site'.

3.54 The risk assessment section of the report identifies the following additional potential contamination sources in relation to the development area:

- *Defects in the drainage system particular in Cellroom D row trench allowed alkaline material to enter the ground during 1993. Limit monitoring indicates a localised impact.*
- *Acid alkali effluent drainage in pilot Cellroom area (Land subsidence was apparent in this area which was backfilled and has not reoccurred). The source was not identified but was likely due to the poor drainage system in the area).*
- *Oil drum storage outside workshop area. Evidence of local contamination affecting surface water drain.*
- *Waste material form historical operations associated with former Bleach Plant. Was in site for long time (assumed tipping). No direct evidence of problems.*

Site Inspection

3.55 An account of a site inspection undertaken during 1996 is summarised as follows:

Location	Observation
<i>Chlorine Cellroom:</i>	<i>All operations well contained. Drainage to channels and sumps which discharge via pipes to chambers outside cellroom. Cracks present in isolated areas of the concrete floor. Records of drainage problems, such as leaks and overflows from sumps outside cell room.</i>
<i>Chlorine Treatment/Brine Treatment Areas:</i>	<i>Open areas, but bunded with rainfall and spillages directed to sumps. Some areas of concrete in poor condition (cracked and corroded). Records of caustic contamination in the ground in isolated areas.</i>
<i>Hypo and caustic storage tanks (to the east of the Cellroom):</i>	<i>Storage tanks not bunded, only pumps and overflows are in bunds. Recent leak from tank resulted in hypo discharge to the ground.</i>
<i>Transformers:</i>	<i>Rectifiers/Transformers (to the east of the Cellroom) – equipment is bunded, but gravel bases are not sealed. Do not have to remove rainwater. Manweb Transformers (to south east of plant) – all are well bunded but no further information was available.</i>
<i>Chlorine Storage tanks /Chlorine tanker loading /Chlorine rail loading</i>	<i>Very high level of containment, including bunding, due to high hazard.</i>
<i>Workshop:</i>	<i>Generally neat and tidy. External oil drum storage shows evidence of overflow from drip trays into the surface water drain.</i>
<i>Cooling towers:</i>	<i>New water treatment chemicals stored in bunded areas. Old storage still in place, but no longer used – bund base cracked and corroded. Sone</i>

Location	Observation
	<i>evidence of water overflow or spray contamination from the towers.</i>
<i>Waste/Equipment storage area (to north of Cellroom):</i>	<i>Generally untidy. Waste rectifier oil stored in drums adjacent to road and surface water gully.</i>
<i>Hydrogen Treatment Area/ Pilot Plant:</i>	<i>Corrosion to concrete slabs and bunded in a number of areas. Voids created in ground in two locations as a result of caustic leaks.</i>
<i>Miscellaneous effluent tanks and pumps:</i>	<i>Located at low level adjacent to Wade Brook. Tanks and pumps located in bunded area. Bund walls high enough to prevent leakage and overflow from tanks and also to prevent inward flooding from the Brook (during flood conditions). Some pump leakage collected in channel. At time of inspection a temporary pump was pumping leakage from channel into effluent tank. No evidence of leakage outside bund walls.</i>

Conclusions and General Recommendations:

- 3.56 With regard to the Chlorine Plant, the report concludes that ‘Generally operations are well contained with minor soil and ground contamination from spills and leaks of hypochlorite, caustic soda and acids leading to probably local effects.’ It states ‘Waste from historical operations are covered at present by buildings and slabs and hence personnel are protected.’

Phase II Factual Report Lostock Works Cheshire. Van Elle (2009) Ref: G900000 (Appendix 9.B)

- 3.57 Van Elle was commissioned by Viridor Ltd to undertake a Phase II Factual Site Investigation at the site. The objective of the Phase II investigation was to provide information regarding ground conditions in order to facilitate the production of an interpretative geotechnical and environmental assessment to assist in the redevelopment of the site for an alternative land use. The site investigation was undertaken between 30th March and 24th April 2009. RPS has undertaken an assessment of the geotechnical data gained as part of this assessment.

- 3.58 The following environmental soil testing was undertaken at the site:

- 21 soil samples were analysed for metals, pH, FOC and speciated PAH;
- 22 soil samples were analysed for metals, asbestos screen, TPH-CWG, SVOC suite and TICs (Tentatively Identified Compounds), pH, VOC suite and TICs, FOC, and speciated PAH;
- 2 leachate samples analysed for metals, pH, speciated PAH;
- 14 leachate samples analysed for metals, TPH-CWG, pH, SVOC suite and TICs, VOC suite and TICs, and speciated PAH.

- 3.59 It has not been possible to obtain a copy of the Interpretative Report.

Soil Chemical Data:

- 3.60 RPS has compared the available laboratory results of the soil against the LQM/CIEH S4ULs (Suitable for Use) for Human Health Risk Assessment with a commercial end use and the leachate

results against the Environmental Quality Standards (EQS) for freshwater. Several exceedances have been noted for both the soil samples and the leachate samples, which are summarised below.

- 3.61 Arsenic was identified at elevated concentrations in soil samples collected in the northern half of the site and concentrations up to 8700 mg/kg.
- 3.62 A range of polyaromatic hydrocarbons were identified at several localised locations across the site, notably in samples collected from BH19 (0.5m.bgl) in the eastern area of the site and BH5 (2.1m.bgl) in the central area of the site.
- 3.63 Trichloromethane was identified at a concentration of 240 µg/kg in the sample collected from TP4 at 0.4m.bgl. This sample also contained detectable concentrations of a range of toluene and benzene related compounds.
- 3.64 Notable exceedances are summarised in the following table.

Determinand	Screening Value (mg/kg)	Concentration (mg/kg)	Location
Arsenic	640	8700 7800 4500 2300 870	WS1 1.2m TP4 0.4m TP1 0.4m BH3 0.3m WS6 0.8m
Trichloromethane	99	240	TP4 0.4m
Benzo(a)anthracene	170	790	BH19 0.5m
Benzo(a)pyrene	35	660	BH19 0.5m
Benzo(b)fluoranthene	44	750 46	BH19 0.5m BH5 2.1m
Chrysene	350	940	BH19 0.5m
Dibenzo(ah)anthracene	3.5	170 5.6 5.5	BH19 0.5m WS8 0.6m BH5 2.1m
Naphthalene	190	270	BH19 0.5m

- 3.65 A number of organic compounds for which S4ULs have not been derived were identified at concentrations above the laboratory limit of detection at isolated locations on the site including carbazole, dibenzofuran, 124 trimethylbenzene and trichloromethane.

Leachate Chemical Data

- 3.66 The leachate chemical data provides an indication of the concentration of contamination that may potentially be leached from soils and therefore may impact groundwater. The data is summarised below.
- The leachable concentration of arsenic was above the EQS for freshwater in samples collected from TP1_0.4m.bgl, TP3_0.5m.bgl, TP4_0.4m.bgl, TP12_1.6m.bgl, BH5_2.1m.bgl, WS2_0.7m.bgl, and WS9_0.3m.bgl.

- BH19_0.5m.bgl contained elevated leachable concentrations of PAHs including Fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-c,d)pyrene and Dibenzo(g,h,i)anthracene.
- Leachable concentrations of Naphthalene and Fluoranthene exceeded the relevant EQS value in TP4_0.4m.bgl.
- The Leachable concentrations of PAHs including Fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-c,d)pyrene and Dibenzo(g,h,i)anthracene exceeded the relevant EQS values in TP3_0.5m.bgl.

Groundwater Chemical Data

- 3.67 Samples were collected from groundwater monitoring wells on three occasions and from two locations along Wade Brook between May 2009 and August 2009. The samples were analysed for a wide range of inorganic and organic determinands including metals, inorganic ions, petroleum hydrocarbons, polyaromatic hydrocarbons, volatile organic compounds and semi volatile organic compounds.
- 3.68 RPS has compared the available analytical data to Environmental Quality Standards protective of freshwater courses. Inorganic determinands that were widely elevated in groundwater include sulphate, arsenic, cadmium, mercury, nickel. Copper, lead and zinc were elevated in several instances during the monitoring programme.
- 3.69 Petroleum hydrocarbon analysis (TPHCWG) identified detectable concentrations in groundwater samples collected from BH6 on one occasion and BH19 on two occasions. The total petroleum hydrocarbon concentration identified in BH6 was 1600 µg/l (May 2009) which was all in the aliphatic range of C21-C35. The total petroleum hydrocarbon concentrations identified in BH19 were 67 µg/l (May 2009) and 320 µg/l (August 2009). The hydrocarbons were aromatic in the range of C8 to C35. The sample collected from BH19 during August 2009 also contained a detectable concentration polyaromatic hydrocarbons with a concentration of 97.7 µg/l which was primarily Naphthalene at a concentration of 59 µg/l. No other notable concentrations of TPH or PAH were identified in groundwater.
- 3.70 VOC analysis identified sporadic trace concentrations of several compounds in groundwater samples but no consistently high or widespread contamination was identified by this analysis. Notable occurrences include chloroethane (up to 7.7 µg/l), 1,1-Dichloroethane (up to 270 µg/l) and 1,1,1-Trichloroethane (up to 460 µg/l) which were consistently identified in groundwater samples collected from BH10 and BH11a.
- 3.71 SVOC analysis identified detectable concentrations of carbazole and dibenzofuran in several samples.

Surface Water Chemical Data

- 3.72 RPS has not been able to confirm exactly where the two sampling points on Wade Brook were located.

- 3.73 Inorganic determinands that were elevated in samples of surface water include arsenic, cadmium, chromium, copper, lead, mercury, nickel. The concentrations were highly variable.
- 3.74 TPHCWG analysis and PAH analysis did not identify elevated concentrations in surface water samples.
- 3.75 Trichloromethane was consistently identified in surface water samples at concentrations up to 24 µg/l. Bromodichloromethane was consistently identified in surface water samples up to a concentration of 9.6 µg/l.

Gas Monitoring Data

- 3.76 Gas monitoring was undertaken on eleven occasions from May 2009 until August 2009 in boreholes BH1 to BH20.
- 3.77 The only wells with detectable concentrations of methane were BH15 and BH19. The concentrations identified in these wells were typically less than 0.3 %. The maximum recorded concentration of methane was reported to be 0.4%.
- 3.78 Carbon dioxide was identified at a maximum concentration of 20.1% (BH15 on one occasion), however concentrations in this well were typically less than 10%. Concentrations in other wells were typically less than 5%.
- 3.79 No positive flow rates were reported.
- 3.80 Based on the available data, gas protection measures in the form of passively vented sub floor voids beneath concrete floor slabs with integrated gas proof membranes are likely to be required for future structures to prevent the ingress of ground gas.

Site Drawings. Wardell Armstrong (2009) Ref: LE10104/SI/002A and LE10104/SI/003A

(It has not been possible to obtain a copy of the Wardell Armstrong (2009) interpretive report).

- 3.81 A review of site drawing LE10104/SI/002A created by Wardell Armstrong indicates the presence of a former asbestos handling works to the west of the centre of the site; drawing LE10104/SI/003A indicates that the groundwater flow at the site is in a south easterly direction towards Wade brook.

Non-Residential Coal Authority Mining Report. The Coal Authority (2015) Ref: 61000630784001

- 3.82 The report was based on and limited to the records held by the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records.
- 3.83 According to the report the site is not located within an area that may potential be affected by past, present or future mine workings. There are no records of mine entries on or within 20m of the site and the Coal Authority have received no subsidence claims for the site.
- 3.84 The site is located within the Cheshire Brine Subsidence Compensation District but is not within any consultation area prescribed by the board under section 38(1) of the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952. A notice of damage has not been filed in respect of the property and there have been no communication of claims in connection therewith.

4 Environmental Risk Assessment

Background

- 4.1 This Risk Assessment consists of an appraisal of the *contaminant-pathway-receptor* 'contaminant linkages' which is central to the approach used to determine the existence of 'contaminated land' according to the definition set out under Part 2A of the Environmental Protection Act 1990. For a risk to exist (under Part 2A), all three of the following components must be present to facilitate a potential 'pollutant linkage'.
- **Contaminant** referring to the source of contamination (hazard).
 - **Pathway** for the contaminant to move/migrate to receptor(s).
 - **Receptor** (target) that could be affected by the contaminant(s).
- 4.2 Receptors include human beings, other living organisms, crops, controlled waters and buildings / structures. The assessment includes a qualitative review for the 'significant possibility of significant harm' (SPOSH). The mere presence of a contaminant source / hazard at a site does not mean that there will necessarily be attendant risks or that the site will be designated as 'contaminated land'. For further details see Annex 9.A.4.
- 4.3 In addition, the assessment includes consideration of potential geo-environmental risks which may pose constraints to the site's redevelopment into the proposed REnescience Northwich facility. The risk assessment also considers information on the site condition prior to redevelopment which will provide accurate baseline conditions on the site to aid in the environmental permit application.
- 4.4 (N.B It should be noted that prior to the facility becoming operational additional information including a Phase II Site Investigation will be gathered to inform the baseline report.)
- 4.5 The risk ratings are defined as follows:
- **Low risk** – it is considered unlikely that issues within the category will give rise to significant harm or a liability/cost for the owner of the site.
 - **Moderate risk** – it is possible, but not certain, that issues within the category will give rise to significant harm or a liability/cost for the owner of the site.
 - **High risk** – there is a high potential that issues within the category will give rise to significant harm or a liability/cost for the owner of the site.

Conceptual Model

Potential Sources	Considered Pathways	Potential Receptors
<p>On Site</p> <p>Bleach works and associated infrastructure. (c.1898 – c.1938)</p> <p>Chlorine works and associated infrastructure. (c.1977 – c.2014)</p> <p>Sub stations</p> <p>Made Ground – artificial embankments/ former tip (landfill)</p> <p>Off Site</p> <p>Salt works (from c.1899)</p> <p>Chemical works (c.1977 – present)</p> <p>Associated infrastructure including substations and railways (pre-1882 – present)</p> <p>Landfills including waste lime reservoirs (80m – 240m south of the site – on opposite side of Wade Brook);</p> <p>Brick & tile works (100m NE)</p> <p>Gasometer (120m E)</p> <p><i>Potential contaminants include a wide range of inorganic an organic elements/compounds including:</i></p> <p>Inorganic ions, acids and alkalis (sodium hypochlorite – bleach), PAHs, PCBs, phenols, petroleum hydrocarbons, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins and furans.</p>	<p>Human Health</p> <p>Dermal contact</p> <p>Inhalation of soil dust</p> <p>Ingestion of soil dust</p> <p>Inhalation soil vapours</p> <p>Inhalation of ground gas</p>	<p>Future site users (future employees and visitors)</p> <p>Construction/maintenance personnel (during redevelopment and post completion)</p> <p>Off-site receptors (residential houses located 225m north of the site. Employees and visitors to adjacent sites)</p>
	<p>Controlled Waters</p> <p>Leaching of mobile contaminants from Made Ground.</p> <p>Vertical and lateral migration of mobile contaminants in permeable strata.</p> <p>Migration along subsurface structures including former drainage system.</p>	<p>Shallow groundwater (Made Ground)</p> <p>Superficial Aquifer (Alluvium)</p> <p>Bedrock Aquifer - Sidmouth Mudstone (Unproductive Strata) and Northwich Halite Formation (Secondary B Aquifer)</p> <p>Wade Brook 15m to the south</p>
	<p>Infrastructure</p> <p>Direct contact with fill or contaminated soils</p> <p>Migration of ground gas</p> <p>Permeation of plastic water pipes</p>	<p>Future building structures</p> <p>Underground utility services</p> <p>Off-site structures</p>

Environmental Risk Assessment

Potential Sources

The site is currently derelict and all buildings having been demolished to slab level; there are no primary point sources of contamination associated with the site currently. There is, however, the potential for secondary soil-based contamination sources associated with historical use of the site.

There is potential for the sites previous use as bleach works (c.1898 – c. 1938) to have caused soil/groundwater contamination. Potential contaminants associated with a bleach works may include: organometallics, PAHs, cresols, phenols, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins, surfactants, metals and metalloids, other inorganic ions including chlorides, chlorates, fluorides and ammonium bisulphate, and acids including hydrochloric, nitric, phosphoric and sulphuric and alkalis including sodium hydroxide. Other potential contaminants include asbestos, PCBs and fuels (e.g. coke).

There is potential for the sites previous use as a chlorine works (c. 1977 – c. 2001) to have caused soil/groundwater contamination. Contaminants generally associated with this use and contaminants identified as being used at the site in the ICI report (1996) are as follows: chlorides, sulphates, sulphides, metals, alkalis (including calcium oxide, sodium hydroxide and sodium carbonate), hydrochloric and sulphuric acid, hydrocarbons, PAHs, chlorinated solvents, inorganics, PCBs and asbestos.

There is potential for the generation of soil/groundwater contamination and ground gas associated with the former tip indicated in the ICI (1996) report and any other Made Ground deposits at the site associated with earthworks. Made Ground could contain a wide range of inorganic and organic contaminants and may have the potential to generate ground gas.

There is potential for the generation of soil/groundwater contamination associated with the adjacent chemical works (c. 1977 – present), salt works (c.1899 – c.1938), and localised contamination associated with the railway lines shown to have been adjacent to the site in several directions. Contaminants associated with the chemical works are similar to those associated with the chlorine works. Contaminants associated with the salt works and railway land include: PAHs, hydrocarbons, metals, and asbestos.

Three landfills are indicated to have been present 80 – 90m to the south of the site. There is potential for the generation of ground gas associated with these landfills.

The site investigation undertaken by Van Elle (2009) identified elevated concentrations of metals in soils across the site. It also identified localised contamination in the form of PAHs, VOCs (trichloromethane and trimethylbenzene). Groundwater samples contained elevated concentrations of a range of metals (including arsenic, cadmium, copper, lead, nickel, mercury and zinc) and localised elevated concentrations of hydrocarbons, PAHs and VOCs (chloroethane, dichloroethane and trichloroethane). Carbazole and dibenzofuran was identified at sporadic locations in soil and groundwater. Surface water samples collected from Wade Brook were found to contain elevated concentrations of metals and VOCs (trichloromethane and bromochloromethane).

Ground gas monitoring identified methane and carbon dioxide in several boreholes across the site.

Potential Pathways

There is the potential for the leaching of mobile contaminants present in made ground and shallow soils to shallow groundwater associated with the made ground and Alluvium. There is the potential for the lateral migration of such contamination in shallow groundwater to bodies of surface water in the vicinity of the site including Wade Brook.

The low permeability Glacial Till which underlies the entire site is typically of low permeability and is likely to limit the migration of shallow groundwater and associated contamination to underlying strata. Due to the presence of the low permeability Glacial Till lateral migration is likely to be limited to shallow made ground and the Alluvium.

On completion of the proposed redevelopment extensive areas of the site will be covered by hardstanding and building cover which will limit the potential for exposure of contaminated soils to site users via dermal contact, dust inhalation and ingestion. It will also limit the potential for off-site migration of dust. The presence of hardstanding and buildings will also limit rainfall infiltration thereby limiting the potential for the leaching of contaminants from made ground.

There is the potential for the migration contaminants along relict underground structures including the drainage systems. There is also the potential for relict drainage features such as drains and sumps to act as sources of contamination if contaminants are held within the system. There is the potential for asbestos fibres to have contaminated the drainage system associated with the former Chlorine Plant. The extensive building cover/hardstanding is likely to limit surface water infiltration and subsequently reduce leaching of any such ground contamination into the groundwater.

Potential Receptors

The site is part of a wider industrial area with the nearest residential houses located 225m to the north of the site. Residential properties are therefore not considered likely to be impacted by the site.

Shallow groundwater associated with the made ground and Alluvium does not represent a particularly sensitive receptor in its own right as no potable abstractions have been identified in these bodies but may enable the migration of contamination to Wade Brook. The presence of low permeability Glacial Till is likely to provide a degree of protection to the underlying Northwich Halite Formation. The Secondary B Aquifer does not represent a highly sensitive receptor as there are no licensed potable groundwater abstractions recorded within 2km of the site and the site is not located within a groundwater Source Protection Zone.

The nearest surface watercourse to the site is Wade Brook located 15m to the south of the site. This represents a low to moderately sensitive receptor as the quality of the watercourse is likely to have been compromised by surrounding land uses both current and historical. The EA Ecological rating for Wade Brook is 'Bad'.

Risk Assessment Rating: Moderate

Inorganic contamination has been identified in soil and groundwater across the site and localised areas of organic contamination have also been identified. The presence of volatile contamination appears to be limited to localised areas and the concentrations of volatile contamination identified to date are not considered to be particularly high. The primary exposure pathways to human health receptors are therefore dermal contact, ingestion and dust inhalation.

At present the site is vacant and access to the site is strictly controlled. Soils are not subject to disturbance and therefore the risk to human health receptors at present is considered to be low.

Upon completion of the proposed redevelopment, extensive areas of the site will be covered in hardstanding/building cover which will limit the exposure of contaminants to human health receptors and also limit the infiltration of rainfall therefore limiting the leaching of soil contaminants. During redevelopment of the site it will be necessary to control the risk to receptors associated with contamination. The controls would be presented in the form of a CEMP (Construction Environmental Management Plan) which would provide measures to mitigate the risk to human health and controlled waters receptors.

There is potential for the generation of ground gas associated with the former on-site refuse tip and off-site refuse tip. There is potentially sulphate contamination, which can be aggressive to concrete, associated with the historical use as a bleach works. There is potential for organic contamination that could impact plastic water pipes.

Based on the available information, the potential risk to human health, controlled waters and infrastructure is considered to be moderate and additional site investigation should be undertaken to further assess the risk.

Other Environmental Issues:***Environmental Issues:***

Evidence of *Japanese Knotweed* was identified in the northwest of the site during the site walkover and during the Phase 1 ecology survey (reported in Chapter 7 and Appendix 7.C of the ES). This appeared to have undergone treatment and was found to be dead, with no new growth evident.

Whilst the site is not indicated to be located above an area of past or current Halite mining, much of the previous extraction was undertaken prior to accurate records being kept. In addition, a number of brine shafts and wells are located in the surrounding area. As a result there is potential for unrecorded mine workings to be encountered at the site. As the site has been developed previously without any obvious effects of mining or brining related subsidence it is considered that the risk is reduced.

RPS has produced a Geotechnical Ground Investigation Report reference HLEI36410/001R dated July 2015 which considers geotechnical matters and potential foundation design solutions.

5 Conclusions & Recommendations

Conclusions

- 5.1 A previous Phase II Site Investigation undertaken by Van Elle in 2009 (Appendix 9.B) identified metal contamination of soil and groundwater and localised organic contamination of soil and groundwater which is likely to be the result of historical use of the site as a bleach works and chlorine plant with asbestos handling area and associated infrastructure. The 2009 site investigation undertaken by Van Elle encountered Made Ground to a maximum depth of 5m.bgl in the area indicated to have been a former tip. There is potential for soil/groundwater contamination and ground gas generation associated with these features.
- 5.2 Based on the information available, the risk to human health receptors, controlled waters receptors and infrastructure post development is considered to be moderate and further site investigation should be undertaken prior to redevelopment to further assess soil/groundwater contamination and assess the ground gas regime.

Risk Management Recommendations

Ground Contamination

- 5.3 Prior to redevelopment, a Phase II Intrusive Investigation should be undertaken to confirm the extent soil/groundwater contamination and the ground gas regime. Specific regard should be paid to the potential presence of asbestos in soils and the drainage system associated with the former chlorine plant. The previous investigation does not appear to have included asbestos analysis.
- 5.4 It would be beneficial to undertake a survey of the drainage system associated with the former chlorine plant in advance of the site investigation so features such as sumps can be targeted. There is the potential for the presence of asbestos contamination within the drainage system and precautions should be taken during the survey and subsequent removal of the system.

Other Environmental Considerations

- 5.5 The following actions are recommended to reduce or clarify other potential environmental risks at the site:
- prior to redevelopment, a Construction Environmental Management Plan (CEMP) should be produced to control and mitigate the risk to human health receptors and controlled water receptor during redevelopment; and
 - this should incorporate measures for materials management and incorporating a waste management to control the handling of materials and waste during the redevelopment.

Glossary

ES – Environmental Statement

EQS – Environmental Quality Standards

FOC – Fraction of Organic Carbon

OS – Ordnance Survey

PAH – Polycyclic Aromatic Hydrocarbons

PCB – Polychlorinated Biphenyls

S4UL – Suitable for all use

SVOC – Semi Volatile Organic Carbon

TPH-CWG: Total Petroleum Hydrocarbons Criteria Working Group

VOC – Volatile Organic Carbon

Annex 9.A.1: General Notes

RPS HEALTH, SAFETY & ENVIRONMENT

Phase 1 - Environmental Risk Assessment / Desk Study Environmental Review

General Notes

1. A "desk study" means that no site visits have been carried out as any part thereof, unless otherwise specified.
2. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the Client.
3. The desk study information is not necessarily exhaustive and further information relevant to the site may be available from other sources.
4. The accuracy of maps cannot be guaranteed and it should be recognised that different conditions on site may have existed between and subsequent to the various map surveys.
5. No sampling or analysis has been undertaken in relation to this desk study.
6. Any borehole data from British Geological Survey sources is included on the basis that: "The British Geological Survey accept no responsibility for omissions or misinterpretation of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation".
7. Where any data supplied by the Client or from other sources, including that from previous site investigations, have been used it has been assumed that the information is correct. No responsibility can be accepted by RPS for inaccuracies in the data supplied by any other party.
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Annex 9.A.2: Site Photographs



Area of former works



Building material



General site overview



Internal Road



Former site area



Yard area



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Client: DONG Energy

Date: August 2015 Scale: NTS

Project: REnescence Northwich

Annex: 9.A.2 Rev: 00

Title: Site Photographs

Job Ref: RCEI36418

Annex 9.A.3: Database Information



Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

68056106_1_1

Customer Reference:

RCEI36418

National Grid Reference:

367940, 374200

Slice:

A

Site Area (Ha):

3.52

Search Buffer (m):

1000

Site Details:

Lostock Site
NORTHWICH
Cheshire
CW9 5GG

Client Details:

Mr A Cousins
RPS Consultants
Unit 12 Watersedge Business Park
Modwen Road
Salford
Manchester
M5 3EZ

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Waste	50
Hazardous Substances	66
Geological	69
Industrial Land Use	87
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Data Currency	98
Data Suppliers	103
Useful Contacts	104

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v49.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		16	20	27
Enforcement and Prohibition Notices	pg 16			1	
Integrated Pollution Controls	pg 16		5	20	
Integrated Pollution Prevention And Control	pg 21			8	6
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 26				11
Local Authority Pollution Prevention and Control Enforcements	pg 28				2
Nearest Surface Water Feature	pg 28		Yes		
Pollution Incidents to Controlled Waters	pg 28		9	23	14
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances	pg 36		2	13	
River Quality	pg 38		2	2	
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 40			1	
Substantiated Pollution Incident Register					
Water Abstractions	pg 40			9	(*5)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 44	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 44	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 44	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 44		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 44		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines	pg 44		Yes	Yes	n/a
Detailed River Network Offline Drainage	pg 49		Yes	Yes	n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 50		1		11
Historical Landfill Sites	pg 51		2	1	8
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 54			1	5
Local Authority Recorded Landfill Sites	pg 55		2	1	5
Registered Landfill Sites	pg 57		1	2	3
Registered Waste Transfer Sites	pg 62				2
Registered Waste Treatment or Disposal Sites	pg 62			1	8
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 66			2	4
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 66	1		1	
Planning Hazardous Substance Consents	pg 66			5	6
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 69	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 69	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 82		6	2	1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
Brine Compensation Area	pg 84	Yes	n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability	pg 84	Yes	n/a	n/a	n/a
Man-Made Mining Cavities	pg 84				6
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 85	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 85	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 85	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 86	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 86	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 86	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 87		7	24	72
Fuel Station Entries	pg 96				2
Sensitive Land Use					
Areas of Adopted Green Belt	pg 97				1
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 97	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	<p>Discharge Consents</p> <p>Operator: Astrazenca Uk Limited Property Type: Basic Industry, Chemicals Inorganic Location: Winnofil Plant Outfall 2 Lostock Works, Works Lane, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890180 Permit Version: 1 Effective Date: 8th February 1980 Issued Date: 8th February 1980 Revocation Date: 3rd March 1995 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m</p>	A13SE (E)	104	2	368160 374190
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890181 Permit Version: 13 Effective Date: 1st October 1998 Issued Date: 1st October 1998 Revocation Date: 20th June 1997 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 1 Effective Date: 1st June 1980 Issued Date: Not Supplied Revocation Date: 30th April 1994 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 2 Effective Date: 1st May 1994 Issued Date: Not Supplied Revocation Date: 30th September 1994 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 3 Effective Date: 1st October 1994 Issued Date: Not Supplied Revocation Date: 19th December 1994 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 4 Effective Date: 20th December 1994 Issued Date: Not Supplied Revocation Date: 12th October 1995 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 5 Effective Date: 13th October 1995 Issued Date: Not Supplied Revocation Date: 29th January 1996 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 6 Effective Date: 30th January 1996 Issued Date: Not Supplied Revocation Date: 30th April 1996 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 7 Effective Date: 1st May 1996 Issued Date: Not Supplied Revocation Date: 30th September 1996 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 8 Effective Date: 1st October 1996 Issued Date: Not Supplied Revocation Date: 30th April 1997 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 9 Effective Date: 1st May 1997 Issued Date: Not Supplied Revocation Date: 20th June 1997 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 10 Effective Date: 20th June 1997 Issued Date: Not Supplied Revocation Date: 30th September 1997 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 11 Effective Date: 1st October 1997 Issued Date: Not Supplied Revocation Date: 30th April 1998 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
2	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890181 Permit Version: 12 Effective Date: 1st May 1998 Issued Date: Not Supplied Revocation Date: 30th September 1998 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13NE (E)	171	2	368230 374220
3	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890213 Permit Version: 1 Effective Date: 9th December 1980 Issued Date: Not Supplied Revocation Date: 19th December 1993 Discharge Type: Discharge Of Other Matter-Ground Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Weaver Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NW (E)	244	2	368290 374290
3	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890213 Permit Version: 2 Effective Date: 20th December 1993 Issued Date: Not Supplied Revocation Date: 12th October 1995 Discharge Type: Discharge Of Other Matter-Ground Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Weaver Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	244	2	368290 374290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	<p>Discharge Consents</p> <p>Operator: Griffiths Park Land Limited Property Type: Basic Industry, Chemicals Inorganic Location: Lostock Works, Works Lane, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890251 Permit Version: 4 Effective Date: 5th September 2003 Issued Date: 5th September 2003 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A12SE (SW)	270	2	367590 374010
4	<p>Discharge Consents</p> <p>Operator: Ici C&P Ltd. Property Type: Basic Industry, Chemicals Inorganic Location: Lostock Works, Works Lane, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890251 Permit Version: 3 Effective Date: 1st January 2002 Issued Date: Not Supplied Revocation Date: 4th September 2003 Discharge Type: Waste Site - Leachate Well Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m</p>	A12SE (SW)	270	2	367590 374010
5	<p>Discharge Consents</p> <p>Operator: Ici Chemicals & Polymers Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890182 Permit Version: 1 Effective Date: 1st June 1980 Issued Date: Not Supplied Revocation Date: 26th June 1989 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NW (E)	298	2	368340 374310
5	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Lower Mersey Reference: 016890183 Permit Version: 1 Effective Date: 1st June 1980 Issued Date: Not Supplied Revocation Date: 30th September 1981 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NW (E)	333	2	368370 374330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890183 Permit Version: 2 Effective Date: 1st October 1981 Issued Date: Not Supplied Revocation Date: 19th December 1993 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	333	2	368370 374330
5	<p>Discharge Consents</p> <p>Operator: Brunner Mond & Co Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890183 Permit Version: 3 Effective Date: 20th December 1993 Issued Date: Not Supplied Revocation Date: 8th June 1995 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	333	2	368370 374330
5	<p>Discharge Consents</p> <p>Operator: Ineos Enterprises Limited Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890186 Permit Version: 3 Effective Date: 31st August 2012 Issued Date: 31st August 2012 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340
5	<p>Discharge Consents</p> <p>Operator: Ineos Enterprises Limited Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890186 Permit Version: 2 Effective Date: 1st June 1980 Issued Date: 1st June 1980 Revocation Date: 30th August 2012 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	<p>Discharge Consents</p> <p>Operator: Ineos Enterprises Limited Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890186 Permit Version: 2 Effective Date: 1st June 1980 Issued Date: 1st June 1980 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Ground Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340
5	<p>Discharge Consents</p> <p>Operator: I.C.I. Chemicals & Polymers Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890186 Permit Version: 1 Effective Date: 1st January 1900 Issued Date: Not Supplied Revocation Date: 31st May 1980 Discharge Type: Discharge Of Other Matter-Ground Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340
5	<p>Discharge Consents</p> <p>Operator: Ineos Chlor Enterprises Limited Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890186 Permit Version: 3 Effective Date: 1st January 2004 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Ground Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340
5	<p>Discharge Consents</p> <p>Operator: Ineos Chlor Enterprises Limited Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890186 Permit Version: 3 Effective Date: 1st January 2004 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	<p>Discharge Consents</p> <p>Operator: I.C.I. Chemicals & Polymers Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890186 Permit Version: 1 Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: 31st May 1980 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	346	2	368380 374340
6	<p>Discharge Consents</p> <p>Operator: Tata Chemicals Europe Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890185 Permit Version: 2 Effective Date: 30th January 1997 Issued Date: 30th January 1997 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	344	2	368370 374360
6	<p>Discharge Consents</p> <p>Operator: Brunner Mond Plc Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890185 Permit Version: 1 Effective Date: 1st June 1980 Issued Date: Not Supplied Revocation Date: 29th January 1997 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (E)	344	2	368370 374360
6	<p>Discharge Consents</p> <p>Operator: Ici Chemicals & Polymers Ltd Property Type: Basic Industry, Chemicals Inorganic Location: Ineos Chlor Enterprises Limited, Lostock Works, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890184 Permit Version: 1 Effective Date: 1st June 1980 Issued Date: Not Supplied Revocation Date: 7th June 1991 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NW (E)	364	2	368400 374340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	<p>Discharge Consents</p> <p>Operator: Dane County Leasing Ltd Property Type: Sewage Disposal Works - Other Location: Dane County Manchester, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Lower Mersey Reference: 016891663 Permit Version: 1 Effective Date: 28th May 1993 Issued Date: Not Supplied Revocation Date: 28th August 1993 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Located by supplier to within 10m</p>	A12SE (W)	437	2	367378 374169
8	<p>Discharge Consents</p> <p>Operator: F & R Construction Ltd Property Type: General Construction Work Location: Development Site Swo Parks Steelworks Site, Manchester Road, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890909 Permit Version: 1 Effective Date: 1st July 1991 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A12NE (W)	487	2	367340 374300
9	<p>Discharge Consents</p> <p>Operator: Astrazenenca Uk Limited Property Type: Basic Industry, Chemicals Inorganic Location: Lostock Works, Works Lane, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890251 Permit Version: 2 Effective Date: 27th July 1988 Issued Date: Not Supplied Revocation Date: 31st December 2001 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m</p>	A7NE (SW)	490	2	367530 373740
9	<p>Discharge Consents</p> <p>Operator: Astrazenenca Uk Limited Property Type: Basic Industry, Chemicals Inorganic Location: Lostock Works, Works Lane, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890251 Permit Version: 1 Effective Date: 6th December 1979 Issued Date: Not Supplied Revocation Date: 26th July 1988 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	490	2	367530 373740

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	<p>Discharge Consents</p> <p>Operator: The Associated Octel Company Limited Property Type: Basic Industry, Chemicals Inorganic Location: Associated Octel Co Ltd, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890275 Permit Version: 1 Effective Date: 18th July 1979 Issued Date: Not Supplied Revocation Date: 28th April 1981 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SW (E)	512	2	368510 373970
10	<p>Discharge Consents</p> <p>Operator: The Associated Octel Company Limited Property Type: Basic Industry, Chemicals Inorganic Location: Associated Octel Co Ltd, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890313 Permit Version: 1 Effective Date: 18th July 1979 Issued Date: Not Supplied Revocation Date: 25th May 1988 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SW (E)	512	2	368510 373970
10	<p>Discharge Consents</p> <p>Operator: The Associated Octel Company Limited Property Type: Basic Industry, Chemicals Inorganic Location: Associated Octel Co Ltd, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016890275 Permit Version: 2 Effective Date: 29th April 1981 Issued Date: Not Supplied Revocation Date: 19th August 1993 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SW (E)	512	2	368510 373970
11	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Manchester Road, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01VRY0100 Permit Version: 2 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Sewage Discharges - Unspecified - Water Company Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m</p>	A12SW (W)	565	2	367250 374170

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Manchester Road, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01vry0100 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: Not Supplied Revocation Date: 31st December 1994 Discharge Type: Sewage Discharges - Unspecified - Water Company Discharge: Not Supplied Environment: Receiving Water: Not Supplied Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A12SW (W)	565	2	367250 374170
11	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Pumping Station - Water Company Location: Manchester Road Sps, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016881506 Permit Version: 1 Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m</p>	A12SW (W)	568	2	367250 374120
11	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Pumping Station - Water Company Location: Manchester Road Sps, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016881505 Permit Version: 1 Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: 11th September 1989 Discharge Type: Storm /emergency overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A12SW (W)	568	2	367250 374120
11	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Pumping Station - Water Company Location: Manchester Road, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016810279 Permit Version: 1 Effective Date: 18th January 1982 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m</p>	A12SW (W)	585	2	367230 374150

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Pumping Station - Water Company Location: Manchester Road Sps, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016881505 Permit Version: 2 Effective Date: 12th September 1989 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m</p>	A12SW (W)	568	2	367250 374115
13	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Domestic Property (Multiple) Location: Denton Drive, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016810415 Permit Version: 1 Effective Date: 29th January 1985 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m</p>	A17SE (NW)	569	2	367400 374600
14	<p>Discharge Consents</p> <p>Operator: Kingsley Estates Ltd Property Type: Domestic Property (Multiple) Location: Residential Development Swo, Near Chapel Street, Wincham, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016890889 Permit Version: 1 Effective Date: 1st July 1991 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A17SE (NW)	573	2	367500 374700
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 102 Middlewich Rd, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Peover Eye Reference: 01VRY0091 Permit Version: 2 Effective Date: 1st January 1995 Issued Date: 1st January 1995 Revocation Date: 26th February 2006 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Un-Named Trib Of Wade Brook Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m</p>	A7NE (SW)	600	2	367535 373600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 49 Edward St, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01vry0093 Permit Version: 2 Effective Date: 11th November 2004 Issued Date: 11th November 2004 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	603	2	367530 373600
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 102 Middlewich Rd, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01vry0091 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: Not Supplied Revocation Date: 31st December 1994 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A7NE (SW)	603	2	367530 373600
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 173 Middlewich Rd, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01vry0092 Permit Version: 1 Effective Date: 1st April 1991 Issued Date: Not Supplied Revocation Date: 31st December 1994 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	603	2	367530 373600
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 49 Edward St, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01VRY0093 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 10th November 2004 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Revoked: New Consent issued (Water Act 1989, Section 113) Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	603	2	367530 373600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 173 Middlewich Rd, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01VRY0092 Permit Version: 2 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd November 2004 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Unknown Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	603	2	367530 373600
15	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 173 Middlewich Rd, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01vry0092 Permit Version: 3 Effective Date: 3rd November 2004 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wade Brook Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	603	2	367530 373600
16	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Northwich Stw Winnington Avenue, Winnington, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016880962 Permit Version: 1 Effective Date: 12th September 1989 Issued Date: Not Supplied Revocation Date: 18th April 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A18NE (N)	618	2	368200 374900
16	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Northwich Stw Winnington Avenue, Winnington, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016880962 Permit Version: 2 Effective Date: 19th April 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A18NE (N)	618	2	368200 374900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Northwich Stw Winnington Avenue, Winnington, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016880962 Permit Version: 3 Effective Date: 16th September 1993 Issued Date: Not Supplied Revocation Date: 7th April 1994 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A18NE (N)	618	2	368200 374900
17	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: O/S 102 Middlewich Rd, Rudheath, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Peover Eye Reference: 016892222 Permit Version: 1 Effective Date: 27th February 2006 Issued Date: 27th February 2006 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Un-Named Trib Of Wade Brook Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A7SE (SW)	703	2	367560 373470
18	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: 11 Manchester Road, Manhole, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01VRY0116 Permit Version: 2 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	720	2	368550 374780
18	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: 11 Manchester Road, Manhole, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01vry0116 Permit Version: 1 Effective Date: 1st July 1991 Issued Date: Not Supplied Revocation Date: 31st December 1994 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Not Supplied Environment: Receiving Water: Not Supplied Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A19SW (NE)	720	2	368550 374780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: New Warrington Road Marston, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016881516 Permit Version: 1 Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Storm /emergency overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	838	2	367060 374565
19	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: New Warrington Road Marston, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01vry0041 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m</p>	A17SW (NW)	840	2	367060 374570
19	<p>Discharge Consents</p> <p>Operator: United Utilities Water Plc Property Type: Sewerage Network - Sewers - Water Company Location: New Warrington Road Marston, Northwich, Cheshire Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01VRY0041 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Storm /emergency overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Wincham Brook Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m</p>	A17SW (NW)	840	2	367060 374570
20	<p>Enforcement and Prohibition Notices</p> <p>Location: Lostock Site, Lostock Gralam, NORTHWICH, Cheshire, CW9 7ZR Permit Reference: AH9545 Enforcement Date: 1st August 1994 Details: Press Release HM036, Discharge of heavy fuel oil to Wade Brook & failure to notify HMIP; under EPA90. Positional Accuracy: Unknown</p>	A14SW (E)	299	2	368354 374162
21	<p>Integrated Pollution Controls</p> <p>Name: Brunner Mond (Uk) Ltd Location: Lostock Power Station, Lostock Gralam, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: Bi4543 Dated: 14th June 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	127	2	368176 374261

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	<p>Integrated Pollution Controls</p> <p>Name: Brunner Mond (Uk) Ltd Location: Lostock Site, Lostock Gralam, Northwich, Cheshire, Cw9 7th Authority: Environment Agency, North West Region Permit Reference: Bv0180 Dated: 10th July 2003 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	133	2	368175 374280
21	<p>Integrated Pollution Controls</p> <p>Name: Brunner Mond (Uk) Ltd Location: Lostock Site, Lostock Gralam, Northwich, Cheshire, Cw9 7th Authority: Environment Agency, North West Region Permit Reference: Bv0171 Dated: 10th July 2003 Process Type: IPC minor (non-substantial) variation to previous variation Description: 3.1 A (D) Cement/Lime manufacture and associated processes within the Mineral Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	133	2	368175 374280
22	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Northwich, Cheshire, Cw9 7Zr Authority: Environment Agency, North West Region Permit Reference: Bt8970 Dated: 11th February 2003 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	235	2	368270 374319
22	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, Northwich, Cheshire, Cw9 7Zr Authority: Environment Agency, North West Region Permit Reference: Bu4767 Dated: 15th April 2003 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	236	2	368271 374318
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Zeneca Resins, Lostock Works, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: BF2994 Dated: 11th February 1999 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	292	2	368346 374262
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: AV8372 Dated: 14th June 1996 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	292	2	368346 374267

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Solvay House (North West), Lostock Works, Works Lane, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: Bz0050 Dated: 14th June 2005 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Revoked - Now IPPC Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	293	2	368346 374268
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, Northwich, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: Bt5423 Dated: 28th November 2002 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	293	2	368346 374268
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: Bi5833 Dated: 6th June 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	293	2	368346 374268
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Zeneca Resins Lostock Works, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: BD9556 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: AY7615 Dated: 26th June 1997 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	294	2	368346 374273
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: AN9930 Dated: 3rd March 1995 Process Type: IPC new application Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	297	2	368351 374263
23	<p>Integrated Pollution Controls</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: AT9980 Dated: 15th December 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address</p>	A14NW (E)	298	2	368351 374268

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	<p>Integrated Pollution Controls</p> <p>Name: Ineos Enterprises Ltd Location: ELECTRODE COATING PLANT,, WINNINGTON, NORTHWICH, CHESHIRE, CW8 4DU Authority: Environment Agency, North West Region Permit Reference: BE3863 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (F) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14SW (E)	388	2	368424 374081
24	<p>Integrated Pollution Controls</p> <p>Name: Ineos Enterprises Ltd Location: ELECTRODE COATING PLANT,, WINNINGTON, NORTHWICH, CHESHIRE, CW8 4DU Authority: Environment Agency, North West Region Permit Reference: BA8804 Dated: 27th July 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.5 A (F) Inorganic Chemical processes within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14SW (E)	388	2	368424 374081
25	<p>Integrated Pollution Controls</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7,Northwich Sites,Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: Bj9649 Dated: 29th November 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7,Northwich Sites,Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: BH5102 Dated: 15th December 1999 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7,Northwich Sites,Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: BH3843 Dated: 10th November 1999 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7,Northwich Sites,Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: BD1385 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	<p>Integrated Pollution Controls</p> <p>Name: Brunner Mond (uk) Ltd Location: Northwich Sites.Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: BC5741 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 1.3 A (A) Combustion processes within the Fuel & Power Industry Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7,Northwich Sites,Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: AR1434 Dated: 26th April 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7,Northwich Sites,Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: AL7260 Dated: 7th October 1994 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Brunner Mond (uk) Ltd Location: Northwich Sites.Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: AH9545 Dated: 26th August 1993 Process Type: IPC minor (non-substantial) variation to previous variation Description: 1.3 A (A) Combustion processes within the Fuel & Power Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270
25	<p>Integrated Pollution Controls</p> <p>Name: Brunner Mond (uk) Ltd Location: Northwich Sites.Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: AA3158 Dated: 28th April 1992 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 1.3 A (A) Combustion processes within the Fuel & Power Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (E)	463	2	368518 374270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	<p>Integrated Pollution Prevention And Control</p> <p>Name: Eco-Option (UK) Limited Location: Land At Brunner-Mond Works, Land At Brunner-Mond Works, Griffiths Road,, Lostock Gralam, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: MP3836WJ Original Permit Ref: Rp3931xd Effective Date: 16th December 2014 Status: Effective Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 100m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.3 A(1) a) (vi) Activity Description: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING RECYCLING OR RECLAMATION OF INORGANIC MATERIALS OTHER THAN METALS OR METAL COMPOUNDS Primary Activity: N Activity Code: 5.3 A(1) a) (iv) Activity Description: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING REPACKAGING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1 Primary Activity: N Activity Code: 5.3 A(1) a) (iii) Activity Description: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING BLENDING OR MIXING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1 Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y Activity Code: 2.2 B (A) Activity Description: Non-Ferrous Metals; Melting With Capacity Less Than 4T/D Lead/Cadmium Or Less Than 20T/D Others (Unless Greater Than 50 Percent Tin) Primary Activity: N Activity Code: 2.2 A(1) (A) Activity Description: Non-Ferrous Metals; Producing From Raw Materials By Metallurgical Activities Etc Primary Activity: N Activity Code: 5.6 A(1) a) Activity Description: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED Primary Activity: N</p>	A13SW (SW)	259	2	367700 373900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	<p>Integrated Pollution Prevention And Control</p> <p>Name: Edelchemie Uk Ltd Location: Land At Brunner-Mond Works, Land At Brunner-Mond Works, Griffiths Road,, Lostock Gralam, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: VP3031EF Original Permit Ref: Rp3931xd Effective Date: 20th January 2014 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 100m Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y Activity Code: 5.3 A(1) a) (iii) Activity Description: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING BLENDING OR MIXING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1 Primary Activity: N Activity Code: 5.3 A(1) a) (iv) Activity Description: DISPOSAL OR RECOVERY OF HAZ WASTE WITH CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING REPACKAGING PRIOR TO SUBMISSION TO ANY OF THE OTHER ACTIVITIES LISTED IN THIS SECTION OR IN SECTION 5.1 Primary Activity: N Activity Code: 5.3 A(1) a) (vi) Activity Description: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING RECYCLING OR RECLAMATION OF INORGANIC MATERIALS OTHER THAN METALS OR METAL COMPOUNDS Primary Activity: N Activity Code: 5.6 A(1) a) Activity Description: TEMPORARY STORAGE OF HAZ WASTE NOT UNDER S 5.2 PENDING ACTIVITIES LISTED IN S 5.1, 5.2, 5.3 AND PARAGRAPH (B) OF THIS SECTION WITH A TOTAL CAPACITY > 50 TONNES, EXCL TEMP STORAGE WHERE GENERATED Primary Activity: N Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 2.2 A(1) (A) Activity Description: Non-Ferrous Metals; Producing From Raw Materials By Metallurgical Activities Etc Primary Activity: N Activity Code: 2.2 B (A) Activity Description: Non-Ferrous Metals; Melting With Capacity Less Than 4T/D Lead/Cadmium Or Less Than 20T/D Others (Unless Greater Than 50 Percent Tin) Primary Activity: N</p>	A13SW (SW)	259	2	367700 373900
27	<p>Integrated Pollution Prevention And Control</p> <p>Name: Brunner Mond (Uk) Ltd Location: Lostock Sodium Carbonate Manufacturing Site, Brunner Mond (Uk) Ltd, Lostock Gralam,, Northwich, Cheshire, CW9 7TH Authority: Environment Agency, North West Region Permit Reference: Sp3430bf Original Permit Ref: Sp3430bf Effective Date: 4th October 2007 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the address or location Activity Code: 5.3 A(1) (C) (II) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Physico-Chemical Treatment Primary Activity: N Activity Code: 4.2 A(1) (A) (VI) Activity Description: Inorganic Chemicals; Halogens Etc Or Halogen/Oxygen Compounds Etc Primary Activity: Y Activity Code: 3.1 A(1) (B) (II) Activity Description: Cement And Lime; Producing Lime With Input Greater Than 5,000T/ 12 Months Primary Activity: N</p>	A14NW (E)	259	2	368307 374286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	<p>Integrated Pollution Prevention And Control</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Solvay House, Lostock Works, Works Lane, Northwich, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: PP3038UF Original Permit Ref: Bs5576il Effective Date: 18th April 2007 Status: Effective Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 4.7 A(1) (B) Activity Description: Carbon Disulphide Or Ammonia; Ammonia Release To Air (Any Chemical Manufacture Not Refridgerant Use) Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y</p>	A14NW (E)	293	2	368346 374268
27	<p>Integrated Pollution Prevention And Control</p> <p>Name: Solvay Speciality Chemicals Ltd Location: Lostock Sodium Carbonate Manufacturing Site, Lostock Works, NORTHWICH, Cheshire, CW9 7ZR Authority: Environment Agency, North West Region Permit Reference: Bs5576il Original Permit Ref: Bs5576il Effective Date: 20th October 2006 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 4.7 A(1) (B) Activity Description: Carbon Disulphide Or Ammonia; Ammonia Release To Air (Any Chemical Manufacture Not Refridgerant Use) Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y</p>	A14NW (E)	293	2	368346 374268
27	<p>Integrated Pollution Prevention And Control</p> <p>Name: Tata Chemicals Europe Limited Location: Lostock Sodium Carbonate Manufacturing Site, Brunner Mond (Uk) Ltd, Lostock Gralam,, Northwich, Cheshire, CW9 7TH Authority: Environment Agency, North West Region Permit Reference: XP3636GZ Original Permit Ref: Sp3430bf Effective Date: 6th March 2009 Status: Superseded By Variation Application Type: Variation App. Sub Type: Minor Positional Accuracy: Manually positioned within the geographical locality Activity Code: 3.1 A(1) (B) (II) Activity Description: Cement And Lime; Producing Lime With Input Greater Than 5,000T/ 12 Months Primary Activity: N Activity Code: 4.2 A(1) (A) (VI) Activity Description: Inorganic Chemicals; Halogens Etc Or Halogen/Oxygen Compounds Etc Primary Activity: Y Activity Code: 5.3 A(1) (C) (II) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Physico-Chemical Treatment Primary Activity: N</p>	A14NW (E)	309	2	368365 374251
28	<p>Integrated Pollution Prevention And Control</p> <p>Name: Eew Energy From Waste Uk Limited Location: Lostock Sustainable Energy Plant, Lostock Sustainable Energy Plant, Lostock Graham, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: QP3136CV Original Permit Ref: Qp3136cv Effective Date: 16th December 2013 Status: Effective Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 10m Activity Code: 5.1 A(1) (C) Activity Description: Incineration Of Non Hazardous Waste Greater Than 1 T/Hr Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N</p>	A14SW (SE)	354	2	368310 373930

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	<p>Integrated Pollution Prevention And Control</p> <p>Name: Edelchemie Uk Ltd Location: Land At Brunner-Mond Works, Griffiths Road, Land At Brunner-Mond Works, Griffiths Road,,Lostock Gralam, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: RP3931XD Original Permit Ref: Rp3931xd Effective Date: 24th November 2009 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 2.2 A(1) (A) Activity Description: Non-Ferrous Metals; Producing From Raw Materials By Metallurgical Activities Etc Primary Activity: N Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.4 A(1) (C) (III) Activity Description: Recovery Of Waste; Hazardous Waste Greater Than 10T/D By Recycling Inorganics (Not Metals) Primary Activity: N Activity Code: 2.2 B (A) Activity Description: Non-Ferrous Metals; Melting With Capacity Less Than 4T/D Lead/Cadmium Or Less Than 20T/D Others (Unless Greater Than 50 Percent Tin) Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y</p>	A14NW (E)	455	2	368505 374302
30	<p>Integrated Pollution Prevention And Control</p> <p>Name: Thor Specialities Uk Ltd Location: Thor Specialities (Uk) Limited, Wincham Avenue, Wincham,,, NORTHWICH, Cheshire, CW9 6GB Authority: Environment Agency, North West Region Permit Reference: Hp3437sg Original Permit Ref: Bl6403iq Effective Date: 30th October 2005 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Manually positioned to the address or location Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y</p>	A18NE (N)	627	2	368015 374942
30	<p>Integrated Pollution Prevention And Control</p> <p>Name: Thor Specialities Uk Ltd Location: Thor Specialities (Uk) Limited, Wincham Avenue, Wincham,,, NORTHWICH, Cheshire, CW9 6GB Authority: Environment Agency, North West Region Permit Reference: VP3933WL Original Permit Ref: Bl6403iq Effective Date: 12th November 2014 Status: Effective Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 4.1 A(1) (A) (V) Activity Description: Organic Chemicals; Phosphorus Containing Compounds Eg Substituted Phosphines Primary Activity: N Activity Code: 5.4 A(1) (A) Activity Description: Recovery Of Waste; By Distillation Of Oil/Organic Solvent Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: N Activity Code: 4.1 A(1) (A) (III) Activity Description: Organic Chemicals; Sulphur Containing Compounds Eg Sulphides Primary Activity: N Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: N Activity Code: 4.1 A(1) (A) (IV) Activity Description: Organic Chemicals; Nitrogen Containing Compounds Eg Amines Primary Activity: N Activity Code: 4.1 A(1) (A) (VI) Activity Description: Organic Chemicals; Halogen Containing Compounds Eg Halocarbons Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y</p>	A18NE (N)	628	2	368015 374943

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	<p>Integrated Pollution Prevention And Control</p> <p>Name: Thor Specialities Uk Ltd Location: Thor Specialities (Uk) Limited, Wincham Avenue, Wincham,,, NORTHWICH, Cheshire, CW9 6GB Authority: Environment Agency, North West Region Permit Reference: ZP3030ZH Original Permit Ref: BL6403iq Effective Date: 20th December 2012 Status: Superseded By Variation Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 4.1 A(1) (A) (III) Activity Description: Organic Chemicals; Sulphur Containing Compounds Eg Sulphides Primary Activity: N Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: N Activity Code: 4.1 A(1) (A) (V) Activity Description: Organic Chemicals; Phosphorus Containing Compounds Eg Substituted Phosphines Primary Activity: N Activity Code: 4.1 A(1) (A) (VI) Activity Description: Organic Chemicals; Halogen Containg Compounds Eg Halocarbons Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y Activity Code: 5.4 A(1) (A) Activity Description: Recovery Of Waste; By Distillation Of Oil/Organic Solvent Primary Activity: N Activity Code: 4.1 A(1) (A) (IV) Activity Description: Organic Chemicals; Nitrogen Containing Compounds Eg Amines Primary Activity: N</p>	A18NE (N)	628	2	368015 374943
30	<p>Integrated Pollution Prevention And Control</p> <p>Name: Thor Specialities Uk Ltd Location: Thor Specialities (Uk) Limited, Wincham Avenue, Wincham,,, NORTHWICH, Cheshire, CW9 6GB Authority: Environment Agency, North West Region Permit Reference: PP3431FN Original Permit Ref: BL6403iq Effective Date: 9th November 2011 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y Activity Code: 4.1 A(1) (A) (VI) Activity Description: Organic Chemicals; Halogen Containg Compounds Eg Halocarbons Primary Activity: N Activity Code: 4.1 A(1) (A) (IV) Activity Description: Organic Chemicals; Nitrogen Containing Compounds Eg Amines Primary Activity: N Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: N Activity Code: 4.1 A(1) (A) (V) Activity Description: Organic Chemicals; Phosphorus Containing Compounds Eg Substituted Phosphines Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: N Activity Code: 4.1 A(1) (A) (III) Activity Description: Organic Chemicals; Sulphur Containing Compounds Eg Sulphides Primary Activity: N Activity Code: 5.4 A(1) (A) Activity Description: Recovery Of Waste; By Distillation Of Oil/Organic Solvent Primary Activity: N</p>	A18NE (N)	628	2	368015 374943

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	<p>Integrated Pollution Prevention And Control</p> <p>Name: Thor Specialities Uk Ltd Location: Wincham Avenue, Wincham, Northwich, Cheshire, CW9 6GB Authority: Environment Agency, North West Region Permit Reference: JP3938XS Original Permit Ref: BI6403iq Effective Date: 21st April 2008 Status: Superseded By Variation Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 4.1 A(1) (A) (III) Activity Description: Organic Chemicals; Sulphur Containing Compounds Eg Sulphides Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: N Activity Code: 4.1 A(1) (A) (V) Activity Description: Organic Chemicals; Phosphorus Containing Compounds Eg Substituted Phosphines Primary Activity: N Activity Code: 4.1 A(1) (A) (IV) Activity Description: Organic Chemicals; Nitrogen Containing Compounds Eg Amines Primary Activity: N Activity Code: 4.1 A(1) (A) (VI) Activity Description: Organic Chemicals; Halogen Containg Compounds Eg Halocarbons Primary Activity: N Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: N Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y Activity Code: 5.4 A(1) (A) Activity Description: Recovery Of Waste; By Distillation Of Oil/Organic Solvent Primary Activity: N</p>	A18NE (N)	628	2	368015 374943
30	<p>Integrated Pollution Prevention And Control</p> <p>Name: Thor Specialities Uk Ltd Location: Thor Specialities (phase 1) Wincham, Wincham Avenue, Wincham, Northwich, Cheshire, CW9 6GB Authority: Environment Agency, North West Region Permit Reference: BI6403iq Original Permit Ref: BI6403iq Effective Date: 14th November 2003 Status: Superseded By Variation Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 4.2 A(1) (A) (IV) Activity Description: Inorganic Chemicals; Salts Eg Ammonium Chloride Primary Activity: Y</p>	A18NE (N)	628	2	368015 374943
31	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Eurorof Ltd Location: Denton Drive, NORTHWICH, Cheshire, CW9 7LU Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: Not Given Dated: 25th September 1993 Process Type: Local Authority Air Pollution Control Description: PG6/29 Di-isocyanate processes Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the road within the address or location</p>	A12NE (NW)	540	3	367342 374464
32	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Motorbody Care (Northwich) Ltd Location: Denton Drive, NORTHWICH, Cheshire, CW9 7LU Authority: Cheshire West and Chester Council, Environmental Health Department Ppc/Vr/Motorbody Dated: 9th September 1992 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Permitted Positional Accuracy: Automatically positioned to the address</p>	A17SE (NW)	571	3	367365 374559

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Middlewich Road Service Station Location: 201-203 Middlewich Road, NORTHWICH, Cheshire, CW9 7DN Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: Not Given Dated: 1st November 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Authorisation revokedRevoked Positional Accuracy: Automatically positioned to the address</p>	A7SE (SW)	668	3	367566 373506
34	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Rudheath Mot Centre Location: Hargreaves Road, RUDHEATH, CW9 7BL Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: Ppc/Wob0.4/Rudheathm Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A7NW (SW)	670	3	367252 373794
35	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Northwest Truck Engineering Location: Griffiths Road, Lostock Gralam, Northwich, Cheshire, CW9 7NU Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: Not Given Dated: 28th July 1995 Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the address or location</p>	A19SE (NE)	689	3	368629 374616
35	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: North West Truck Engineering Co Ltd Location: Griffiths Road, Lostock Gralam, NORTHWICH, Cheshire, CW9 7NU Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: PPC/WOB0.4/NWTRUCKS Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Authorisation revokedRevoked Positional Accuracy: Automatically positioned to the address</p>	A19SE (NE)	689	3	368629 374616
36	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: New Platt Motors Location: Chapel Street, Wincham Park, NORTHWICH, Cheshire, CW9 6DA Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: PPC/VR/NEWPLATT/1 Dated: 27th March 1995 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A18NW (NW)	694	3	367600 374900
37	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Tesco Stores Ltd Location: Manchester Road, NORTHWICH, Cheshire, CW9 5LY Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: PFS/PFS/TESCOS Dated: 1st November 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address</p>	A12SW (W)	704	3	367121 374060
38	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: A & B Autos Location: Unit 2 Hargreaves Road, RUDHEATH, CW9 7BL Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: PPC/WOB0.4/A&B Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Authorised Positional Accuracy: Located by supplier to within 100m</p>	A7NW (SW)	718	3	367217 373758

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Express Asphalt Location: Wincham Avenue, off Wincham lane, NORTHWICH, Cheshire, CW9 6GB Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: PPC/ROADCOAT/AGGIND Dated: 14th December 1995 Process Type: Local Authority Air Pollution Control Description: PG3/15 Mineral drying and roadstone coating processes Status: Authorised Positional Accuracy: Manually positioned to the address or location</p>	A18NW (N)	867	3	367935 375180
39	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Tarmac Topmix Ltd Location: Wincham Lane, Winham, NORTHWICH, Cheshire, CW9 6DE Authority: Cheshire West and Chester Council, Environmental Health Department Permit Reference: PPC/CONC/TOPMIX Dated: 20th March 1992 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1 Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Located by supplier to within 100m</p>	A18NW (N)	891	3	367900 375200
40	<p>Local Authority Pollution Prevention and Control Enforcements</p> <p>Location: Wincham Lane, Northwich, Cheshire, CW9 6de Type: Air Pollution Control Enforcement Notice Reference: PPC/CONC/TOPBLOCK Date Issued: 24th February 2002 Enforcement Date: 28th September 2001 Details: Practices Contravening Conditions 2^ 3^ 4^ 5^ 6^ 8^ 9 And 20 Positional Accuracy: Located by supplier to within 100m</p>	A18NW (N)	867	3	367935 375180
41	<p>Local Authority Pollution Prevention and Control Enforcements</p> <p>Location: Wincham Lane, NORTHWICH, Cheshire, CW9 6DE Type: Air Pollution Control Enforcement Notice Reference: NOT GIVEN Date Issued: 24th February 2002 Enforcement Date: Not Supplied Details: Practices Contravening Conditions 2^ 3^ 4^ 5^ 6^ 8^ 9 And 20 Positional Accuracy: Automatically positioned to the address</p>	A18NW (N)	885	3	367868 375190
	Nearest Surface Water Feature	A13SE (S)	13	-	367961 374089
42	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Manufacturing: Chemical Manufacture Location: Brunner Mond, Lostock Works, LOSTOCK, Cheshire Authority: Environment Agency, North West Region Pollutant: Inorganic Chemicals : Sodium Chloride Note: Not Supplied Incident Date: 4th August 1999 Incident Reference: 33399 Catchment Area: Tributary Upstream Of Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Accident Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A13NE (N)	85	2	368000 374400
43	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: Wade Bk Incident Date: 15th September 1994 Incident Reference: 94522104 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A13SW (SW)	121	2	367800 374000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Wade Brook, Brunner Mond, River Lostock Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: Not Supplied Incident Date: 10th March 1998 Incident Reference: SO980461 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	142	2	368200 374200
45	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Ici Lostock, LOSTOCK Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Not Supplied Incident Date: 22nd January 1998 Incident Reference: SO980214 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NE (E)	162	2	368200 374295
45	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Chemicals - Alkali Note: Wade Brook; Lime Beds Discharge Incident Date: 14th April 1996 Incident Reference: 96520755 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: High Flow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NE (E)	164	2	368200 374300
46	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Wade Brook Adjacent , I C I Chemical & Polymers Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: Chlorine Plant; Wade Brook; Rectifier Oil Incident Date: 1st September 1997 Incident Reference: 97521592 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Leaking Tank Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	183	2	367700 374000
47	Pollution Incidents to Controlled Waters Property Type: Pipelines (Long Distance Only) Location: Lostock Gralam , NORTHWICH Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wincham Brook; Brine Incident Date: 15th August 1997 Incident Reference: 97521594 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	207	2	367900 374500
48	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Wade Brook Incident Date: 27th February 1991 Incident Reference: 91520277 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	211	2	368200 374400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Other Fuel Oil Note: Wade Brook Incident Date: 4th August 1994 Incident Reference: 94521789 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13SW (W)	227	2	367600 374100
50	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook; Brine Incident Date: 1st October 1996 Incident Reference: 96522112 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	255	2	368300 374295
50	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook; Brine Incident Date: 19th August 1995 Incident Reference: 95522124 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	257	2	368300 374300
51	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wincham Bk; Brine Incident Date: 10th March 1995 Incident Reference: 95520492 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Leaking Underground Pipe Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	294	2	367700 374500
52	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Chemicals - Alkali Note: Wade Brook; Caustic Soda Incident Date: 3rd July 1996 Incident Reference: 96521499 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	296	2	368300 374395
52	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook; Brine Soda Ash Incident Date: 14th November 1996 Incident Reference: 96522251 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Electrical Failure Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	298	2	368300 374400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	Pollution Incidents to Controlled Waters Property Type: Industrial: Other Location: Brunner Mond, LOSTOCK Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: Wade Brook; Turbine Oil Incident Date: 11th February 1997 Incident Reference: 97520246 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	300	2	368305 374395
53	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident In Transit Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wincham Brook; Brine Incident Date: 10th February 1996 Incident Reference: 96520252 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (N)	336	2	367800 374600
54	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook Incident Date: 23rd August 1994 Incident Reference: 94521932 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Ineffective Pumping Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	341	2	368400 374200
55	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Unknown Note: Not Supplied Incident Date: 12th December 1995 Incident Reference: 95522985 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	352	2	368400 374300
55	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook; Brine Incident Date: 23rd August 1996 Incident Reference: 96522026 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	356	2	368405 374295
56	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Brunner Mond, Lostock Site, NORTHWICH Authority: Environment Agency, North West Region Pollutant: Oils - Gas Oil Note: Wade Brook; Gas Oil Incident Date: 1st October 1997 Incident Reference: 97521729 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Mechanical Failure Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	355	2	367500 374000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	Pollution Incidents to Controlled Waters Property Type: Manufacturing: Chemical Manufacture Location: Lostock Works, Wade Brook, Cheshire Authority: Environment Agency, North West Region Pollutant: Inorganic Chemicals : Sodium Chloride Note: Not Supplied Incident Date: 4th August 1999 Incident Reference: 31527 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Accident Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	357	2	367500 373995
57	Pollution Incidents to Controlled Waters Property Type: Manufacturing: Chemical Manufacture Location: Lostock, Northwich, NORTHWICH, Cheshire Authority: Environment Agency, North West Region Pollutant: Inorganic Chemicals : Ammonium Note: Not Supplied Incident Date: 11th October 1999 Incident Reference: 33350 Catchment Area: Tributary Upstream Of Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Structural Failure : Steel Structure Failure Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	390	2	368400 374405
57	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Industrial Effluent Note: Wade Brook; Caustic Incident Date: 11th August 1991 Incident Reference: 91521446 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	390	2	368405 374395
57	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Alkali Note: Wade Brook Incident Date: 26th November 1995 Incident Reference: 95522853 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	392	2	368405 374400
58	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Ici , Griffiths Road , NORTHWICH Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Spillage Of Liquid; Alkaline Incident Date: 3rd November 1998 Incident Reference: SO981941 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Mechanical Failure Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	402	2	368400 374000
59	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Liquid In Trent & Mersey Canal, Griffiths Road , LOSTOCK Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: 10th July 1998 Incident Reference: SO981358 Catchment Area: Trent & Mersey Canal Receiving Water: Canal Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	449	2	368500 374295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: I C I Lostock, LOSTOCK Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook; Brine Incident Date: 18th December 1997 Incident Reference: 97522066 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Inadequate Design/Capacity Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	450	2	368500 374300
60	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Industrial Effluent Note: Tributary Wade Brook Incident Date: 23rd April 1991 Incident Reference: 91520568 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	466	2	367500 373800
60	Pollution Incidents to Controlled Waters Property Type: Construction: Other Location: Marbury Lane, NORTHWICH, Cheshire Authority: Environment Agency, North West Region Pollutant: Inert : Other Note: Not Supplied Incident Date: 24th June 1999 Incident Reference: 28954 Catchment Area: Tributary Upstream Of Wincham Brook Receiving Water: River Stretch (Freshwater) Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	469	2	367500 373795
61	Pollution Incidents to Controlled Waters Property Type: Chemical industry Location: Ici Lostock - Brine Purification Plant, LOSTOCK Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Not Supplied Incident Date: 25th March 1998 Incident Reference: SO980567 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	477	2	368500 374395
61	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Griffiths Road, LOSTOCK Authority: Environment Agency, North West Region Pollutant: Chemicals - Unknown Note: Wade Brook; Probably Lime Incident Date: 11th February 1997 Incident Reference: 97520245 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	479	2	368500 374400
62	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Foul Sewer Location: River Lostock, NORTHWICH Authority: Environment Agency, North West Region Pollutant: Surcharged Sewage Note: Sewage To Wincham Brook Incident Date: 31st March 1998 Incident Reference: SO980568 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Leaking Underground Pipe Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	491	2	368400 374600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	Pollution Incidents to Controlled Waters Property Type: Oil Industry (Not Garages) Location: Denton Drive Industrial Estate, NORTHWICH Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: Wincham Brook; Lubricating Oil Incident Date: 8th May 1997 Incident Reference: 97520811 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Fire Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	505	2	367400 374495
63	Pollution Incidents to Controlled Waters Property Type: Oil Industry (Not Garages) Location: Revolution Oil / Trans European Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: Wincham Brook; Lubricating Oil Incident Date: 23rd January 1997 Incident Reference: 97520128 Catchment Area: Wincham Brook Receiving Water: Freshwater Stream/River Cause of Incident: Fire Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	508	2	367400 374500
64	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook Incident Date: 2nd May 1995 Incident Reference: 95520994 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	515	2	367300 374195
65	Pollution Incidents to Controlled Waters Property Type: Pollution Found Source Not Determined Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Colour Note: Wade Brook; None Pollution Found Incident Date: 24th August 1996 Incident Reference: 96521899 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	519	2	368500 374495
65	Pollution Incidents to Controlled Waters Property Type: Private Sewage: Sewage Works And Septic Tanks Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: Trent And Mersey Incident Date: 19th February 1992 Incident Reference: 92520287 Catchment Area: Trent & Mersey Canal Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	521	2	368500 374500
66	Pollution Incidents to Controlled Waters Property Type: Other Location: Wincham Wharf , NORTHWICH Authority: Environment Agency, North West Region Pollutant: Chemicals - Solvents Note: Degreasant Solvent; Trent And Mersey Canal; Degreasant Solvent Incident Date: 23rd January 1997 Incident Reference: 97520161 Catchment Area: Trent & Mersey Canal Receiving Water: Canal Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	628	2	368500 374695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident In Transit Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Petrol Note: Not Supplied Incident Date: 29th September 1995 Incident Reference: 95522418 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Collision Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	631	2	368500 374700
67	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Unknown Note: Wade Brook; No Pollution Found Incident Date: 9th December 1995 Incident Reference: 95522954 Catchment Area: Wincham Brook Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	841	2	367000 374400
68	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident In Transit Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Unknown Note: Tributary River Dane Incident Date: 12th March 1991 Incident Reference: 91520339 Catchment Area: Dane Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	841	2	367400 373400
68	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Petrol Note: Weaver Catchment Incident Date: 21st December 1995 Incident Reference: 95523040 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	845	2	367400 373395
69	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Tributary River Weaver; Brine Incident Date: 24th May 1995 Incident Reference: 95521221 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	869	2	367100 374700
70	Pollution Incidents to Controlled Waters Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Other Inorganic Note: Wade Brook; Brine Incident Date: 21st September 1995 Incident Reference: 95522390 Catchment Area: Weaver Receiving Water: Not Given Cause of Incident: Leaking Underground Pipe Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	889	2	368900 374500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
71	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Not Given Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Unknown Note: Trent And Mersey Canal; None Pollution Found Incident Date: 24th May 1995 Incident Reference: 95521220 Catchment Area: Trent & Mersey Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A9SW (SE)	904	2	368400 373300
72	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Not Given Location: Cheshire Authority: Environment Agency, North West Region Pollutant: Unknown Note: Trent and Mersey Canal; None Pollution Found Incident Date: 10th April 1995 Incident Reference: 95520771 Catchment Area: Trent & Mersey Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A9SW (S)	959	2	368300 373200
73	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (UK) Ltd Location: Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: AY4632 Dated: 6th June 1997 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Minor variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	200	2	368254 374256
73	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (uk) Ltd Location: Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: A19702 Dated: 31st March 1991 Process Type: Not Supplied Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A13NE (E)	200	2	368254 374256
74	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (UK) Ltd Location: Northwich East, Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: Bw5926 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	292	2	368346 374267
74	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (UK) Ltd Location: Northwich East, Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: AY4616 Dated: 6th June 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	292	2	368346 374267

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (uk) Ltd Location: Northwich East, Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: AH6775 Dated: 4th October 1993 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7)</p> <p>Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variation Superseded</p> <p>Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	292	2	368346 374267
74	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (uk) Ltd Location: Northwich East, Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: A19737 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7)</p> <p>Description: Authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variation Superseded</p> <p>Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	292	2	368346 374267
74	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (UK) Ltd Location: Northwich East, Lostock Works, NORTHWICH, Cheshire, CW8 4DT Authority: Environment Agency, North West Region Permit Reference: CD1525 Dated: 28th October 2008 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1)</p> <p>Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Application has been authorised and any conditions apply to the operator Authorised</p> <p>Positional Accuracy: Manually positioned within the geographical locality</p>	A14NW (E)	293	2	368346 374268
74	<p>Registered Radioactive Substances</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7, Northwich Sites, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: Bs6122 Dated: 22nd July 2002 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1)</p> <p>Description: Minor variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation either revoked or cancelled Cancelled</p> <p>Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
74	<p>Registered Radioactive Substances</p> <p>Name: Ineos Chlor Ltd Location: Chlorine Plant, Northwich Sites Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: Bs6157 Dated: 22nd July 2002 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7)</p> <p>Description: Minor variation to an authorisation under S13 or S14 RSA in respect of a registration under S7 when Technetium 99M is used being <= 10 gigabecquerels Status: Authorisation either revoked or cancelled Cancelled</p> <p>Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
74	<p>Registered Radioactive Substances</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7, Northwich Sites, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: Bk4707 Dated: 28th March 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1)</p> <p>Description: Discretionary registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variation Superseded</p> <p>Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	<p>Registered Radioactive Substances</p> <p>Name: Ineos Chlor Ltd Location: Chlorine Plant, Northwich Sites Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: Bk4553 Dated: 28th March 2001 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
74	<p>Registered Radioactive Substances</p> <p>Name: Ineos Chlor Ltd Location: Po Box 7, Northwich Sites, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: A17432 Dated: 4th October 1993 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of multiple open sources which are also the subject of authorisations Status: Authorisation superseded by a new applicationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
74	<p>Registered Radioactive Substances</p> <p>Name: Ineos Chlor Ltd Location: Chlorine Plant, Northwich Sites Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: AG3967 Dated: 4th October 1993 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation superseded by a new applicationSuperseded Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
74	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (UK) Ltd Location: Chlorine Plant, Northwich Sites Off Griffiths Road, Lostock, NORTHWICH, Cheshire, CW9 7NU Authority: Environment Agency, North West Region Permit Reference: A19745 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the address or location</p>	A14NW (E)	293	2	368346 374268
75	<p>Registered Radioactive Substances</p> <p>Name: Brunner Mond (UK) Ltd Location: Northwich East Site, Griffiths Road, NORTHWICH, Cheshire, CW9 7NY Authority: Environment Agency, North West Region Permit Reference: CD0588 Dated: 28th October 2008 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Manually positioned within the geographical locality</p>	A14NW (E)	461	2	368516 374267
	<p>River Quality</p> <p>Name: Wade Bk GQA Grade: River Quality F Reach: A530 Lostock To Wincham Bk Estimated Distance (km): 1.9 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000</p>	A13SW (S)	58	2	367915 374033

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Wincham Bk GQA Grade: River Quality C Reach: Smoker Bk To Wade Bk Estimated Distance (km): 4 Flow Rate: Flow less than 5 cumecs Flow Type: River Year: 2000	A18SW (N)	244	2	367920 374555
	River Quality Name: Wade Bk GQA Grade: River Quality C Reach: Near Millgate Farm To A530 Lostock Estimated Distance (km): 4 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A14NW (E)	383	2	368441 374229
	River Quality Name: Trent & Mersey Canal GQA Grade: River Quality D Reach: Middlewich To Preston Bk Estimated Distance (km): 29.1 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A14SW (SE)	395	2	368403 374003

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	<p>River Quality Chemistry Sampling Points</p> <p>Name: Wincham Brook Reach: Smoker Brook To Wade Brook Estimated Distance: 4.00 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied</p>	A18SW (NW)	442	2	367604 374614
77	<p>Water Abstractions</p> <p>Operator: Brunner Mond (Uk) Ltd Licence Number: 2568003131 Permit Version: Not Supplied Location: Wade Brook At , Lostock, NORTHWICH Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 5000 Yearly Rate (m3): 1825000 Details: Wade Brook Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A14NW (E)	351	2	368400 374295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	Water Abstractions Operator: I C I Limited Mond Division Licence Number: 2568003086 Permit Version: Not Supplied Location: Wade Brook Frontage, Lostock, NORTHWICH Authority: Environment Agency, North West Region Abstraction: Cooling & Manufacturing Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 50006 Yearly Rate (m3): 5464292 Details: Additional Purpose: Manufacturing; Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14NW (E)	357	2	368405 374300
78	Water Abstractions Operator: Ineos Enterprises Limited Licence Number: 2568003085 Permit Version: 104 Location: Wincham Brook Near Lostock Works Northwich Authority: Environment Agency, North West Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 2nd May 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	382	2	367700 374600
78	Water Abstractions Operator: Ineos Enterprises Limited Licence Number: 2568003085 Permit Version: 103 Location: Wincham Brook Near Lostock Works Northwich Authority: Environment Agency, North West Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises In The Northwich Area Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd August 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	382	2	367700 374600
78	Water Abstractions Operator: Ineos Chlor Enterprises Ltd Licence Number: 2568003085 Permit Version: 102 Location: Wincham Brk, Near Lostock Works, Northwich Authority: Environment Agency, North West Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises In The Northwich Area Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	382	2	367700 374600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	<p>Water Abstractions</p> <p>Operator: Ineos Chlor Ltd Licence Number: 2568003085 Permit Version: 101 Location: Wincham Brk, Near Lostock Works, Northwich Authority: Environment Agency, North West Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises In The Northwich Area Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A18SW (NW)	382	2	367700 374600
78	<p>Water Abstractions</p> <p>Operator: I C I Chemicals & Polymers Ltd Licence Number: 2568003085 Permit Version: 100 Location: Wincham Brk, Near Lostock Works, Northwich Authority: Environment Agency, North West Region Abstraction: Chemicals: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 50006 Yearly Rate (m3): 14638120 Details: Premises In The Northwich Area Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A18SW (NW)	382	2	367700 374600
79	<p>Water Abstractions</p> <p>Operator: British Waterways Board Licence Number: 2568002151 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North West Region Abstraction: Not Supplied Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Trent & Mersey Canal Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A14NW (NE)	387	2	368400 374400
79	<p>Water Abstractions</p> <p>Operator: Canal And River Trust Licence Number: 2568002995 Permit Version: 100 Location: Trent And Mersey Canal Lostock Northwich Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 0 Yearly Rate (m3): 3400408 Details: Ici Ltd, Lostock Works Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1969 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A14NW (NE)	394	2	368405 374405

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Daniel R Spibey Licence Number: 2568002219 Permit Version: Not Supplied Location: River Dane At Shurlack, RUDHEATH Authority: Environment Agency, North West Region Abstraction: Amenity Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1310 Yearly Rate (m3): 20000 Details: Licence Status: Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A7SW (SW)	1245	2	367000 373200
	<p>Water Abstractions</p> <p>Operator: Mr C R Garton Licence Number: 2568002219 Permit Version: 102 Location: River Dane At Shurlack, Rudheath Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Shurlack, Rudheath Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 4th January 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A2SW (SW)	1578	2	367050 372750
	<p>Water Abstractions</p> <p>Operator: J Glithero Licence Number: 2568002219 Permit Version: 101 Location: River Dane At Shurlack, Rudheath Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 1310 Yearly Rate (m3): 20000 Details: Land At Shurlack, Rudheath Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st March 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A2SW (SW)	1578	2	367050 372750
	<p>Water Abstractions</p> <p>Operator: H.Platt & Sons (Leftwich) Ltd. Licence Number: 2568002195 Permit Version: Not Supplied Location: Nortwich, NORTWICH, Cheshire Authority: Environment Agency, North West Region Abstraction: Agricultural Spray Irrigation (Summer) Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 455 Yearly Rate (m3): 8228 Details: River Dane Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A1NW (SW)	1745	2	366500 373000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: H Platt & Sons Leftwich Ltd Licence Number: 2568002195 Permit Version: 100 Location: R Dane At Northwich Authority: Environment Agency, North West Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 455 Yearly Rate (m3): 8228 Details: Land At Northwich Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 29th February 1988 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1NW (SW)	1748	2	366500 372995
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (H1) - Soils which readily transmit liquid discharges because they are either shallow, or susceptible to rapid by-pass flow directly to rock, gravel or groundwater Map Sheet: Sheet 16 West Cheshire Scale: 1:100,000	A13SE (S)	0	2	367941 374157
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 16 West Cheshire Scale: 1:100,000	A13SE (E)	0	2	367938 374199
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13SE (E)	0	4	367938 374199
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13NE (E)	0	4	368011 374218
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A13SE (E)	0	4	367938 374199
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (S)	0	4	367960 374138
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (S)	4	2	367959 374098
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (S)	5	2	367959 374097
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
80	Detailed River Network Lines River Type: Primary River River Name: Wade Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course Name: WADE/CROW/REDLION BR Water Course Reference: WCRL	A13SE (S)	15	2	367961 374087

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	Detailed River Network Lines River Type: Primary River River Name: Wade Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A13SW (SW)	67	2	367808 374058
82	Detailed River Network Lines River Type: Tertiary River River Name: Wade Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A13SW (SW)	67	2	367808 374058
83	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: Wade Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A13NE (E)	125	2	368183 374222
84	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A13NW (NW)	305	2	367753 374542
85	Detailed River Network Lines River Type: Primary River River Name: Wade Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A14NW (E)	319	2	368346 374355
86	Detailed River Network Lines River Type: Primary River River Name: Wincham Brook Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WINCHAM BROOK Name: Water Course: WNCH Reference:	A18SE (N)	334	2	367976 374648

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	Detailed River Network Lines River Type: Primary River River Name: Wincham Brook Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WINCHAM BROOK Name: Water Course: WNCH Reference:	A18SW (N)	339	2	367784 374596
88	Detailed River Network Lines River Type: Lake/Reservoir River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A14NW (E)	344	2	368377 374344
89	Detailed River Network Lines River Type: Secondary River River Name: Drain Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (N)	360	2	367895 374660
90	Detailed River Network Lines River Type: Primary River River Name: Wade Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A12SE (W)	382	2	367462 374023
91	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A12SE (SW)	386	2	367486 373956
92	Detailed River Network Lines River Type: Canal River Name: Trent and Mersey Canal Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Above Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A14SW (E)	401	2	368447 374112

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
93	Detailed River Network Lines River Type: Primary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A14NW (E)	407	2	368444 374342
94	Detailed River Network Lines River Type: Primary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WINCHAM BROOK Name: Water Course: WNCH Reference:	A18SW (NW)	408	2	367668 374612
95	Detailed River Network Lines River Type: Tertiary River River Name: Drain Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A12SE (SW)	413	2	367475 373922
96	Detailed River Network Lines River Type: Tertiary River River Name: Wade Hydrographic Area: D011 River Flow Type: Secondary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A12SE (SW)	413	2	367475 373922
97	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (NW)	423	2	367696 374644
98	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (NW)	429	2	367698 374653

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	Detailed River Network Lines River Type: Secondary River River Name: Drain Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Drain (ditch, Reen, Rhyne, Drain) Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (NW)	432	2	367688 374651
100	Detailed River Network Lines River Type: Primary River River Name: Wade Brook Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WADE/CROW/REDLION BR Name: Water Course: WCRL Reference:	A12SE (W)	438	2	367406 374014
101	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A7NE (SW)	441	2	367522 373812
102	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (N)	486	2	367850 374777
103	Detailed River Network Lines River Type: Primary River River Name: Wincham Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: WINCHAM BROOK Name: Water Course: WNCH Reference:	A17SE (NW)	491	2	367568 374648
104	Detailed River Network Lines River Type: Tertiary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A17SE (NW)	491	2	367580 374656

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
105	Detailed River Network Lines River Type: Secondary River River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SW (N)	496	2	367848 374788
106	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A13NW (N)	75	2	367935 374372
107	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A13NW (N)	122	2	367921 374433
108	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A13NW (N)	142	2	367904 374432
109	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A13NW (N)	143	2	367900 374432
110	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A13SW (S)	163	2	367883 373932
111	Detailed River Network Offline Drainage River Type: Secondary River Hydrographic Area: D011	A13SW (SW)	296	2	367652 373891
112	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A18SE (N)	368	2	367991 374683
113	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8NE (SE)	370	2	368229 373819
114	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8NE (SE)	384	2	368243 373813
115	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A8NE (SE)	384	2	368238 373809
116	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A7NE (SW)	454	2	367482 373838
117	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A14SW (SE)	491	2	368444 373885
118	Detailed River Network Offline Drainage River Type: Tertiary River Hydrographic Area: D011	A9NW (SE)	492	2	368424 373852

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	<p>BGS Recorded Landfill Sites</p> <p>Site Name: No 1 Tip Location: Griffiths Pk, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A13SE (S)	84	-	368003 374024
120	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Tip no. 2/6A Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A9NW (SE)	537	-	368456 373818
121	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Tip no. 2/1 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: Site overlying gravels and K. Marl Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A9NW (SE)	542	-	368489 373865
122	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Works Tip no2/4 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A14SW (E)	557	-	368594 374058
123	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Tip no. 2/6B Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A9NW (SE)	580	-	368411 373698
124	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Tip no. 2/2 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A9NW (SE)	633	-	368556 373797
125	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Tip no. 2/8 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A9NW (SE)	669	-	368372 373555
126	<p>BGS Recorded Landfill Sites</p> <p>Site Name: Wark Tip no 2/5 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate</p>	A14SE (E)	737	-	368732 373911

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
127	BGS Recorded Landfill Sites Site Name: Tip no. 2/7 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A9NW (SE)	773	-	368557 373570
128	BGS Recorded Landfill Sites Site Name: Tip no. 2/3 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A9NE (SE)	819	-	368694 373668
129	BGS Recorded Landfill Sites Site Name: Ashtons and Newmans Flashes Location: Maiston, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Derived	A17SW (W)	908	-	366990 374579
130	BGS Recorded Landfill Sites Site Name: Tip no. 2/9 Location: Lostock Graham, NORTHWICH, Cheshire Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate	A9SE (SE)	1000	-	368814 373522
131	Historical Landfill Sites Licence Holder: ICI Chemicals and Polymers Limited Location: Lostock, Cheshire Name: Griffiths Park Operator Location: Lostock Gralam, Northwich, Cheshire Boundary Accuracy: As Supplied Provider Reference: EAHLD17106 First Input Date: 31st December 1947 Last Input Date: 31st December 1980 Specified Waste Type: Deposited Waste included Inert, Industrial and Special Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 0600/0122 BGS Ref: 2073 Other Ref: 60539	A13SE (S)	84	2	368000 374022
132	Historical Landfill Sites Licence Holder: ICI Chemicals and Polymers Limited Location: Griffiths Park, Northwich, Cheshire Name: ICI Lostock Works Landfill Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD15612 First Input Date: 31st December 1903 Last Input Date: 22nd April 1944 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 0600/0140 BGS Ref: Not Supplied Other Ref: 60538A	A13SW (S)	166	2	367936 373929

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
133	<p>Historical Landfill Sites</p> <p>Licence Holder: ICI Chemicals and Polymers Limited Location: Northwich, Cheshire Name: Griffiths Park Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD17109 First Input Date: 31st December 1903 Last Input Date: 22nd April 1944 Specified Waste Type: Deposited Waste included Inert, Industrial and Household Waste, and Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 0600/0140 BGS Ref: Not Supplied Other Ref: 60538A</p>	A8NW (S)	349	2	367883 373747
134	<p>Historical Landfill Sites</p> <p>Licence Holder: Northwich Resources Management Limited Location: Off Griffiths Road, Northwich, Cheshire Name: Griffiths Road Limebeds Operator Location: Lostock, Gralam, Northwich, Cheshire Boundary Accuracy: As Supplied Provider Reference: EAHLD17938 First Input Date: 31st December 1952 Last Input Date: 1st April 1994 Specified Waste Type: Deposited Waste included Inert, Industrial and Special Waste, and Liquid Sludge EA Waste Ref: 53802 Regis Ref: NR1/L/NRM002 WRC Ref: 0600/0217 BGS Ref: 2074 Other Ref: 60540M, ALT/BGS/2075/2076/2077/2078/2079/2081</p>	A9NW (SE)	531	2	368450 373820
135	<p>Historical Landfill Sites</p> <p>Licence Holder: Not Supplied Location: Lostock Graham, Northwich, Cheshire Name: Works Tip No 2/1 Operator Location: Lostock, Gralam, Northwich, Cheshire Boundary Accuracy: As Supplied Provider Reference: EAHLD31956 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Industrial Waste and Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2080 Other Ref: Not Supplied</p>	A9NW (SE)	542	2	368489 373865
136	<p>Historical Landfill Sites</p> <p>Licence Holder: Imperial Chemical Industries Limited Location: Griffiths Road, Northwich, Cheshire Name: No.4 Settling Pond Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD17102 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: Not Supplied</p>	A14SW (E)	548	2	368579 374038
137	<p>Historical Landfill Sites</p> <p>Licence Holder: Not Supplied Location: Lostock Graham, Northwich, Cheshire Name: Works Tip No. 2/4 Operator Location: Lostock Gralam, Northwich, Cheshire Boundary Accuracy: As Supplied Provider Reference: EAHLD31954 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Inert and Industrial Waste, and Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2072 Other Ref: Not Supplied</p>	A14SW (E)	557	2	368594 374058

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
138	<p>Historical Landfill Sites</p> <p>Licence Holder: Cheshire County Council Location: Wincham Lane, Cheshire Name: Wincham Lane Land Reclamation Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD17085 First Input Date: 31st December 1991 Last Input Date: 31st December 1992 Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 0600/0149 BGS Ref: Not Supplied Other Ref: 61577</p>	A18SE (N)	567	2	368104 374873
139	<p>Historical Landfill Sites</p> <p>Licence Holder: Not Supplied Location: Northwich Name: Warrington New Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD35034 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Household Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: Not Supplied</p>	A12NW (W)	648	2	367167 374206
140	<p>Historical Landfill Sites</p> <p>Licence Holder: Not Supplied Location: Lostock Graham, Northwich, Cheshire Name: Work Tip No. 2/5 Operator Location: Lostock Gralam, Northwich, Cheshire Boundary Accuracy: As Supplied Provider Reference: EAHLD31953 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2071 Other Ref: Not Supplied</p>	A14SE (E)	737	2	368732 373911
141	<p>Historical Landfill Sites</p> <p>Licence Holder: Not Supplied Location: Maiston, Northwich, Cheshire Name: Ashtons and Neumanns Flashes Operator Location: Northwich, Cheshire Boundary Accuracy: As Supplied Provider Reference: EAHLD31957 First Input Date: 31st December 1950 Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert, Industrial and Household Waste, and Liquid Sludge Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 2082 Other Ref: Not Supplied</p>	A17SW (W)	908	2	366990 374579

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
142	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 100425 Location: Land At Brunner - Mond Works, Off Griffiths Road, Lostock, Northwich, Cheshire, CW9 7NY Operator Name: Edelchemie U K Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Not Supplied Licence Status: Expired Issued: 24th November 2009 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually positioned within the geographical locality</p>	A14NW (E)	329	2	368386 374246
143	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 86241 Location: Wade Works, Lostock, Northwich, Cheshire, CW9 Operator Name: Remedex Ltd Operator Location: 36 , Bristol, Avon, BS9 2PP Authority: Environment Agency - Thames Region, West Area Site Category: Mobile Plant Licence Status: Issued Issued: 30th October 2000 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A7NE (SW)	540	2	367500 373700
144	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 50076 Location: 249 Middlewich Road, Rudheath, Northwich, Cheshire, CW9 7DR Operator Name: Nelson Eric Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Issued Issued: 24th August 2001 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A8SW (S)	617	2	367770 373490
144	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 50008 Location: 249 Middlewich Road, Rudheath, Northwich, Cheshire, CW9 7DR Operator Name: A A A Skip Hire Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Transferred Issued: 13th November 1998 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A8SW (S)	633	2	367746 373478

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
145	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 53802 Location: Land/premises At, Griffiths Road, Northwich, Cheshire, CW9 7NU Operator Name: Northwich Resource Management Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Lagoons Licence Status: Modified Issued: 4th February 1993 Last Modified: 2nd December 2014 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A9SW (SE)	854	2	368600 373500
146	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 50323 Location: Shannon House, Wincham Avenue, Wincham Lane, Wincham, Cheshire, CW9 6GB Operator Name: M Igoe Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Mobile Plant Licence Status: Modified Issued: 16th March 2005 Last Modified: 11th April 2006 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A23SW (N)	984	2	367921 375296
	<p>Local Authority Landfill Coverage</p> <p>Name: Vale Royal Borough Council - Has supplied landfill data</p>		0	5	367938 374199
	<p>Local Authority Landfill Coverage</p> <p>Name: Cheshire County Council - Has supplied landfill data</p>		0	6	367938 374199
147	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Ici Lostock, Near Rudheath Reference: 4/414 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department Last Reported Status: Not Supplied Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A13SE (S)	80	5	368000 374024
148	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Manchester Road Reference: 4/216 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department Last Reported Status: Not Supplied Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A13NW (N)	90	5	367888 374372
149	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Edward Street, Northwich Reference: 4/207/0 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department Last Reported Status: Not Supplied Types of Waste: Non-Notifiable Industrial/Commercial/Domestic Refuse, Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A8NW (SW)	400	5	367653 373762

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
150	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Wade Street, Northwich Reference: 4/225 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department</p> <p>Last Reported Status: Not Supplied</p> <p>Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A12SW (W)	644	5	367171 374171
151	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Lostock Lime Beds, Northwich Reference: 4/586 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department</p> <p>Last Reported Status: Not Supplied</p> <p>Types of Waste: Some Industrial Waste, Some Lead Waste Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A9NW (SE)	668	5	368370 373555
152	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Chapel Street, Marston Reference: 4/428/0 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department</p> <p>Last Reported Status: Not Supplied</p> <p>Types of Waste: Construction Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A17SW (NW)	890	5	367057 374671
153	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Ashton'S & Nuemann'S Flashes, Northwich Reference: W4-302 Authority: Cheshire County Council (now part of Cheshire East Council), Environmental Planning Department</p> <p>Last Reported Status: Unknown</p> <p>Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A17SW (NW)	899	6	367003 374587
154	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Ashton'S Flashes Reference: 4/412 Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council), Environmental Health Department</p> <p>Last Reported Status: Not Supplied</p> <p>Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A17SW (NW)	909	5	366996 374597

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	<p>Registered Landfill Sites</p> <p>Licence Holder: I.C.I. Ltd Licence Reference: Z 60539 Site Location: I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: Mond Division PO Box 13, The Heath, RUNCORN, Cheshire, WA7 4QF Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Accuracy: Moderate Authorised Waste: Alloprenes Asbestos Calcium Oxide Calcium Sulphate (Plant Scale) Contaminated Rubbish/Bags/Sacks House. + Com. Untreated Waste Ind. Non-Haz. Inert, Non-Flammable Ind. Non-Haz. Potentially Combustible Sodium/Potassium Carbonates Sulphides, Selen'S, Tell'S, Arsen'S \$ Thiocyanate Winnofil</p>	A13SE (S)	182	2	367959 373918
156	<p>Registered Landfill Sites</p> <p>Licence Holder: I.C.I. Ltd Licence Reference: X60538A Site Location: I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire Licence Easting: 368000 Licence Northing: 373800 Operator Location: Mond Division PO Box 13, The Heath, RUNCORN, Cheshire, WA7 4QF Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: Waste produced/controlled by licence holder Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1991 Preceded By: X60538A Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Alloprenes Plant Liquid Effluent Asbestos/Asbestos Contam.W. Ex Lostock Brine Plant Scale Burnt Lime Canteen Waste Constr'N/Demol.Wastes Ex Ici Sites Contam.Chlor.Poly-Isoprene/Carbon Tet. Contaminated Ash Distiller Scale Emergency Brine Mud Fly Ash Gen. Cleanings Inc. Off-Spec. Winnofil Ind. Non-Haz. Inert, Non-Flammable Ind. Non-Haz. Potentially Combustible Laboratory Waste Lime Dust Lime Grit Mill.Of Lime Oil Fired Boiler Dust Sodium Bicarbonate Uncontam. Soil For Restoration</p>	A8NE (S)	305	2	368000 373800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
156	<p>Registered Landfill Sites</p> <p>Licence Holder: I.C.I. Ltd Licence Reference: X60538A Site Location: I.C.I. Lostock Works, Griffiths Park, Northwich, Cheshire Licence Easting: 368000 Licence Northing: 373800 Operator Location: Mond Division PO Box 13, The Heath, RUNCORN, Cheshire, WA7 4QF Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Status: Record supersededSuperseded Dated: 30th December 1982 Preceded By: Z 60538 Licence: Superseded By: X60538A Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Alloprene Ammoniacal Crude Liquor Sludge Asbestos Boiler Ash Contam. Vanadium Pentoxide Contaminated Water (To Lagoon Only) Demolition Rubble Domestic Type Waste Ind. Non-Haz. Combustible Ind. Non-Haz. Non-Flammable Sodium Carbonate Traces Of Calcium Oxide/Hydroxide Waste Calcium Carbonate Winnofil</p>	A8NE (S)	305	2	368000 373800
157	<p>Registered Landfill Sites</p> <p>Licence Holder: Cheshire C.C. Licence Reference: X61577 RES Site Location: Wincham Lane Land Reclamation, Northwich, Cheshire Licence Easting: 368000 Licence Northing: 375100 Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1991 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Max.Deposit Permitted By Licence Uncontam. Soil, Sand, Clay Prohibited Waste: Waste N.O.S.</p>	A18NE (N)	785	2	368000 375100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
158	<p>Registered Landfill Sites</p> <p>Licence Holder: 3 C Waste Ltd Licence Reference: X60516 Site Location: Witton Landfill Site, (Ashton'S Flash), Leicester Street, Northwich, Cheshire Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: 3 Hilliards Court, Chester Business Park, Wrexham Road, CHESTER, Cheshire, CH4 9QX</p> <p>Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st February 1993 Preceded By: X60516 Licence: Superseded By: Not Given Licence: Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good Authorised Waste</p> <ul style="list-style-type: none"> Acid Anhydrides Aliphatic Acids Aliphatic Hydrocarbons Aromatic Acids Aromatic Hydrocarbons Arsenic Compounds Barium Compounds (Water Soluble) Cadmium Compounds Calcium Hydroxide Calcium Oxide Cellulose Wastes (Natural/Synth.) Chromium,Manganese,Cobalt,Molyb.Cpds Construction Ind. Wastes Copper Compounds Difficult Wastes As Detailed Below Dyestuffs Waste Epoxy Resins (Not Finished Prod'S) Fats, Waxes And Greases Food Processing Wastes/Starch Fuel Oil Glue Wastes Household & Commercial Waste Hydrochloric Acid Ind. Non-Haz. Waste Interceptor Pit Wastes Ion-Exchange Resin Wastes Iron Compounds Kerosene And Derv. Latex, Latex/Rubber Sol'Ns/Susp'Ns Lead Compounds Max.Waste Permitted By Licence Mercury Compounds Nickel Compounds Non-Special Asbestos Other Non-Toxic Metal Compounds Other Resins And Polymeric Materials Paint Waste Pharmaceutical/Cosmetic Products Phenol-Formaldehyde Resins (Not Prod) Phenols, Analogues/Derivatives Phosphoric Acid Phthalates Polyester Resins (Not Finished Prod'S) Polyurethane Printing Industry Wastes/Ink Restricted Clinical Wastes Rubber (Incl. Shredded Tyres) Silver Compounds Soaps & Detergents Sodium/Potassium Oxides/Hydroxides Sodium/Potassium Carbonates Sulphuric Acid Synthetic Adhesive Wastes Tank Cleaning Sludge Tannery & Fellmongers Waste Tar, Pitch, Bitumen, Asphalts Thallium Compounds Titanium Compounds Untreated Sewage Sludge/Screenings Vanadium Compounds Vegetable And Other Oils Zinc Compounds <p>Prohibited Waste</p> <ul style="list-style-type: none"> Bulk Loads Of Aerosols With Flam.Cont Liquid/Pumpable Sludges 	A17SW (W)	908	2	366990 374580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p> Organohalogens Special Asbestos Unshredded Tyres Waste Burns Unsupported At 40 C Waste In Drums Waste With Flash Pt < 30 C Waste With Temp. > 40 C (Except By Pa) Wet Pulverised Dom/Com. From Dano Plt. Contaminated Land Waste Environment Agency must give specific authorisation for this waste to be acceptedWaste requires prior approval </p> <p> Distillation Residues Fertilizer Waste </p>				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
159	<p>Registered Landfill Sites</p> <p>Licence Holder: Cheshire C.C. Licence Reference: X60516 Site Location: Witton Landfill Site, (Ashton'S Flash), Leicester Street, Northwich, Cheshire Licence Easting: Not Supplied Licence Northing: Not Supplied Operator Location: Backford Hall, CHESTER, Cheshire, CH1 6EA Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Record supersededSuperseded Dated: 21st March 1977 Preceded By: Not Given Licence: Superseded By: X60516 Licence: Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good Authorised Waste</p> <ul style="list-style-type: none"> Aliphatic Acids \$ Animal Processing Wastes Asbestos Biocides Calcium Hydroxide Calcium Oxide Cellulose Wastes (Natural/Synth.) Construction And Demolition Wastes Contaminated Rubbish/Bags/Sacks Copper Compounds Dyestuffs Waste Empty Used Containers Farm Wastes Fats, Waxes And Greases Food Processing Wastes/Starch Glue Wastes House. + Com. Untreated Waste Hydrochloric Acid Hydrofluoric Acid Ind. Non-Haz. Inert, Non-Flammable Ind. Non-Haz. Potentially Combustible Industrial Effluent Treatment Sludge Inorganic Acids Interceptor Pit Wastes \$ Iron Compounds Latex, Latex/Rubber Sol'Ns/Susp'Ns Mineral Processing Wastes Mixed Inorganic Compounds Nickel Compounds Nitric Acid Oil/Water Mixtures Organic Acids + Related Cmpds Other Alkalis Other Industrial Wastes Other Inorganic Materials Other Non-Toxic Metal Compounds Other Resins And Polymeric Materials Paint Waste \$ Pharmaceutical/Cosmetic Products Phenol-Formaldehyde Resins (Not Prod)\$ Phosphoric Acid Polymeric Material, Products/Scrap Printing Industry Wastes/Ink \$ Prod'Ts Of Incomplete Polymerisation \$ Scrap Rubber (Including Tyres) Silt And Dredgings Slag, Boiler/Flue Cleanings Sodium Bicarbonate Sodium Carbonate Sodium/Potassium Oxides/Hydroxides Sodium/Potassium Carbonates Spent Catalyst Starch Wastes Sulphuric Acid Synthetic Adhesive Wastes Tank Cleaning Sludge \$ Tannery & Fellmongers Waste Tar, Pitch, Bitumen, Asphalts Used Filter Materials \$ Vanadium Compounds Vegetable And Other Oils Water (Contaminated) Zinc Compounds <p>Environment Agency Waste N.O.S must give specific</p>	A17SW (W)	908	2	366990 374580

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	authorisation for this waste to be acceptedWaste requires prior approval				
160	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: E Nelson T/A Nortwich Mini Skips Licence Reference: Eawml50076 Site Location: Unit 4 Rudheath Industrial Estate, 249 Middlewich Road, Rudheath, Northwich, Cheshire, Cw9 7dr Operator Location: Unit R8 Verdin Exchange, High Street, Winsford, Cheshire, Cw7 2an Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 24th August 2001 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: New Licence, Wastes Not To Hand Some Ukw 22.00.00 General & Biodegradable Waste Some Ukw 24.00.00 Contaminated General Waste Ukw 21.00.00 Inert Materials - As Ukw 21.01.00 Inert - Naturally Occurring Rocks & Subsoil</p>	A8SW (S)	602	2	367800 373500
160	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: A S & Mrs Ashworth t/a Ash Contractors Licence Reference: 50008 Site Location: Plot 13 Farmers Avenue (Rear Of), 249 Middlewich Road, Northwich, Cheshire, Cw9 7dr Operator Location: 24 Owley Wood Road, Weaverham, Northwich, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 1st November 1998 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Waste Permitted By Licence Uncontam. H'Hold & Commercial Waste Uncontam. Non-Haz. Ind. Waste Uncontam. Scrap Metal Uncontam. Soils/Subsoils Prohibited Waste: Putrescible Waste Spec.Waste (Epa'90:S62/1996 Regs) Sub'S In 76/454/Eec Danger Aquatic Env Waste N.O.S.</p>	A8SW (S)	602	2	367800 373500
161	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Licence Reference: Z 60538 Site Location: Griffiths Park, Lostock Works, Northwich, Cheshire Operator Location: Mond Div. Lostock Gralam, Northwich, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Storage - Reception pit Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 10th May 1977 Preceded By: Not Given Licence: Superseded By: X60538A Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Allopren (Less Than 500 Ppm) Hydrochloric Acid Water (Contaminated)</p>	A8NW (S)	346	2	367879 373749

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
162	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Mond Div. Licence Reference: Z 60544 Site Location: Ponds 6a/6b, Lostock, Northwich, Cheshire Operator Location: Mond Div. Lostock Gralam, Northwich, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Undefined Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: 60540M Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Distiller Blow-Off Liquor</p>	A9NW (SE)	531	2	368451 373821
163	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Licence Reference: 60540 Site Location: Pond 1, Lostock, Northwich, Cheshire Operator Location: Mond Division PO Box 13, The Heath, RUNCORN, Cheshire, WA7 4QF Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: 60540M Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Aqueous Effluent Waste Distiller Blow-Off Mud Graphite Less Than 50 Ppm Sodium Chloride Water (Contaminated)</p>	A9NW (SE)	540	2	368483 373856
164	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Mond Div. Licence Reference: Z 60542 Site Location: Pond 4, Lostock, Northwich, Cheshire Operator Location: Mond Div. Lostock Gralam, Northwich, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: 60540M Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Brine Purification Plant Mud Distiller Blow-Off Mud</p>	A14SW (E)	562	2	368593 374038

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
165	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Licence Reference: Z 60541 Site Location: Ponds 2/7, Lostock, Northwich, Cheshire Operator Location: Mond Division PO Box 13, The Heath, RUNCORN, Cheshire, WA7 4QF Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: 60540M Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Ex New Cells Room Magnesium Hydroxide Mineral Processing Wastes Sodium/Potassium Carbonates</p>	A9NW (SE)	630	2	368566 373821
166	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Mond Div. Licence Reference: Z 60545 Site Location: Pond 8, Lostock, Northwich, Cheshire Operator Location: Mond Div. Lostock Gralam, Northwich, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: 60540M Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Boiler Sluicings Brine Purification Plant Mud</p>	A9NW (SE)	669	2	368375 373556
167	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: I.C.I. Ltd Mond Div. Licence Reference: Z 60543 Site Location: Pond 5, Lostock, Northwich, Cheshire Operator Location: Mond Division PO Box 13, The Heath, RUNCORN, Cheshire, WA7 4QF Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 1st May 1977 Preceded By: Not Given Licence: Superseded By: 60540M Licence: Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate Authorised Waste: Brine Purification Plant Mud Sludge Wastes</p>	A14SE (E)	721	2	368714 373910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
168	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: Northwich Resources Management Ltd Licence Reference: 60540M Site Location: Ponds 1/2/3/4/5/6a/6b/7/8/9, Lostock, Northwich, Cheshire Operator Location: Mond House, P O Box 4, Winnington, Northwich, Cheshire, Cw8 4dt Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Operational as far as is knownOperational Dated: 1st March 1993 Preceded By: 60540M Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste Brine & Water Plant Sump Waste Brine Mud - Emergency Only Chlorine Plant - Dcl Liquor Chlorine Plant Acidic/Alkaline Eff. Chlorine Plant Effluent Distiller Blow Off Clear Liquor Gas Scrubber Water Hydrochloric Acid In Emergency Sulphuric Acid In Emergency Unclarified D.B.O Mud - Emergency Only Winnofil Plant - Fortimax Winnofil Plant Filtrate/Water Winnofil Plant Reactor Washings Winnofil Plant Waste Lime</p>	A9SW (SE)	854	2	368600 373500
168	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: Northwich Resources Management Ltd Licence Reference: 60540M Site Location: Ponds 1/2/3/4/5/6a/6b/7/8/9, Lostock, Northwich, Cheshire Operator Location: Mond House, P O Box 4, Winnington, Northwich, Cheshire, Cw8 4dt Authority: Environment Agency - North West Region, South Area Site Category: Storage - Lagoon Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: Only waste produced on site Restrictions: Licence Status: Record supersededSuperseded Dated: 30th December 1982 Preceded By: Z 60543 Licence: Superseded By: 60540M Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste Asbestos Contained In Above Waste Boiler Sluicings Cont.Vanadium Pentox. Brine Purification Mud Distiller Blow-Off Liquors Distiller Blow-Off Slurry Plant Liquid Effluents Silt From Cooling Water Ponds Weak Ammoniacal Salt</p>	A9SW (SE)	854	2	368600 373500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	Control of Major Accident Hazards Sites (COMAH) Name: Imperial Chemical Industries Ltd Location: PO Box 7, NORTHWICH, Cheshire, CW8 4DJ Reference: Not Supplied Type: Lower Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Manually positioned to the address or location	A14NW (E)	292	7	368347 374256
169	Control of Major Accident Hazards Sites (COMAH) Name: Ineos Enterprises Ltd Location: Ethylene Plant, Lostock, Po Box 7, Lostock Works, Griffiths Road, Northwich, Cheshire, CW9 7NY Reference: Not Supplied Type: Lower Tier Status: Active Positional Accuracy: Manually positioned to the address or location	A14NW (E)	292	7	368346 374267
170	Control of Major Accident Hazards Sites (COMAH) Name: Thor Specialities (Uk) Ltd Location: Wincham Avenue, Wincham, NORTHWICH, Cheshire, CW9 6GB Reference: 18374 Type: Lower Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Automatically positioned to the address	A18NE (N)	628	7	368015 374943
170	Control of Major Accident Hazards Sites (COMAH) Name: Thor Specialities (Uk) Ltd Location: Wincham Avenue, Wincham, Northwich, Cheshire, CW9 6GB Reference: Not Supplied Type: Upper Tier Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	628	7	368015 374943
171	Control of Major Accident Hazards Sites (COMAH) Name: BG Plc BG Transco Location: Holford, NORTHWICH, Cheshire, CW9 7TG Reference: Not Supplied Type: Upper Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Manually positioned within the geographical locality	A19SW (NE)	646	7	368508 374714
172	Control of Major Accident Hazards Sites (COMAH) Name: G.Cross & Sons (Northwich) Ltd Location: Canal Side, Chapel Street, Wincham, Northwich, Cheshire, CW9 6DA Reference: Not Supplied Type: Lower Tier Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	804	7	367636 375038
173	Notification of Installations Handling Hazardous Substances (NIHHS) Name: Imperial Chemical Industries (ICI) Limited Location: Northwich Sites, P O Box 7, Lostock Works, LOSTOCK GRALAM, CW8 4DJ Status: Record Ceased To Be Supplied Under NIHHS Regulations (1982) Positional Accuracy: Located by supplier to within 100m	A13SW (W)	0	7	367900 374200
174	Notification of Installations Handling Hazardous Substances (NIHHS) Name: Imperial Chemical Industries (ICI) PLC Location: Holford Brinefields, Holford Moss, Lostock Gralam, NORTHWICH, Cheshire, CW9 Status: Record Ceased To Be Supplied Under NIHHS Regulations (1982) Positional Accuracy: Manually positioned to the address or location	A14NW (E)	291	7	368347 374251
175	Planning Hazardous Substance Consents Name: Ici Chemicals & Polymers Ltd Location: Lostock Works, Lostock, Gralam, Cw9 Authority: Cheshire West and Chester Council, Planning Department Application Ref: Hs8 Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 35 Application date: 20th October 1999 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location	A14NW (E)	293	8	368346 374268

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
176	<p>Planning Hazardous Substance Consents</p> <p>Name: Ineos Chlor Location: Chlorine Plant, Lostock Works, Lostock Gralam, CW9 7TD Authority: Cheshire West and Chester Council, Planning Department Application Ref: APP/2004/0334 Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 798 Application date: 8th March 2004 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location</p>	A14SW (SE)	304	8	368293 374007
177	<p>Planning Hazardous Substance Consents</p> <p>Name: Ici Chemicals & Polymers Ltd Location: Po Box 7, Lostock, Northwich, Cheshire, Cw8 4dj Authority: Cheshire West and Chester Council, Planning Department Application Ref: Hs1 Hazardous Substance: Chlorine Maximum Quantity: 778 Application date: 4th September 1992 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location</p>	A14SW (E)	342	8	368400 374195
177	<p>Planning Hazardous Substance Consents</p> <p>Name: Ici Chemicals & Polymers Location: Po Box 7, Lostock, Northwich, Cheshire, Cw8 4dj Authority: Cheshire West and Chester Council, Planning Department Application Ref: HS1 Hazardous Substance: Chlorine Maximum Quantity: 1200 Application date: 4th September 1992 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location</p>	A14SW (E)	342	8	368400 374195
178	<p>Planning Hazardous Substance Consents</p> <p>Name: Ineos Chlor Location: Ethylene Conditioning Plant, Lostock Works, Lostock Gralam, Northwich, CW9 7TD Authority: Cheshire West and Chester Council, Planning Department Application Ref: APP/2004/0333 Hazardous Substance: Ethylene oxide Maximum Quantity: 15 Application date: 8th March 2004 Decision: Withdrawn Positional Accuracy: Manually positioned to the address or location</p>	A14SW (E)	388	8	368425 374083
179	<p>Planning Hazardous Substance Consents</p> <p>Name: Thor Specialities (Uk) Ltd Location: Wincham Avenue, Wincham, Northwich, CW9 6GB Authority: Cheshire West and Chester Council, Planning Department Application Ref: 05-0845-HAZ Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 2145 Application date: 11th May 2005 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location</p>	A18NE (N)	628	8	368015 374943
179	<p>Planning Hazardous Substance Consents</p> <p>Name: Thor Specialties (Uk) Location: Wincham Avenue, Wincham, Northwich, Cw9 6gb Authority: Cheshire West and Chester Council, Planning Department Application Ref: App/2002/1201 Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 725.2 Application date: 21st November 2002 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location</p>	A18NE (N)	635	8	368010 374950
180	<p>Planning Hazardous Substance Consents</p> <p>Name: G Cross And Sons Ltd Location: Chapel Street, Wincham, Northwich, CW9 6DA Authority: Cheshire West and Chester Council, Planning Department Application Ref: 11/05989/HAZ Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 897 Application date: 29th December 2011 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the address or location</p>	A18NW (N)	655	8	367754 374924

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
181	<p>Planning Hazardous Substance Consents</p> <p>Name: Thor Specialities Uk Ltd Location: Wincham Avenue, Wincham, Northwich, Cw9 6gb Authority: Cheshire West and Chester Council, Planning Department Application Ref: 11/04377/HAZ Hazardous Substance: Very toxic Maximum Quantity: 0 Application date: 3rd October 2011 Decision: Unknown at time of report Positional Accuracy: Manually positioned to the address or location</p>	A18NE (N)	679	8	368154 374976
182	<p>Planning Hazardous Substance Consents</p> <p>Name: Thor Specialities (Uk) Location: Wincham Avenue, Wincham, Northwich, CW9 6GB Authority: Cheshire West and Chester Council, Planning Department Application Ref: APP/2004/1912 Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 399 Application date: 27th October 2004 Decision: Deemed Consent Granted Positional Accuracy: Manually positioned to the road within the address or location</p>	A18NE (N)	687	8	368023 375002
183	<p>Planning Hazardous Substance Consents</p> <p>Name: Thor Specialities (Uk) Ltd Location: Wincham Avenue, Wincham, Northwich, Cw9 6gb Authority: Cheshire West and Chester Council, Planning Department Application Ref: App/2003/0098 Hazardous Substance: Combination of Dangerous Substances Maximum Quantity: 500 Application date: 22nd January 2003 Decision: Authorisation superseded by a substantial or non substantial variation Positional Accuracy: Manually positioned to the address or location</p>	A18NE (N)	777	8	367983 375092

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13SE (E)	0	4	367938 374199
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: <15 mg/kg	A13NE (E)	0	4	368010 374218
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (E)	0	4	367938 374199
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	0	4	368000 374257
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (S)	0	4	367960 374137
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SE)	0	4	368000 374152
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: <15 mg/kg	A13SE (E)	0	4	368000 374199

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SE (SE)	24	4	368025 374162
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A13SE (SE)	35	4	368000 374074
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SE (S)	36	4	367983 374068
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A13SE (SE)	42	4	368041 374089
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SE (S)	95	4	367938 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SW (W)	101	4	367714 374199

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SE (S)	107	4	368000 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SE (SE)	124	4	368055 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SW (SW)	124	4	367713 374089
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SW (SW)	163	4	367712 374017
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A13SW (SW)	174	4	367712 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	267	4	367870 374554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	269	4	367928 374574
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A14NW (E)	270	4	368318 374289
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SE (N)	288	4	368000 374603
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12SE (SW)	289	4	367573 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SW (N)	299	4	367846 374583
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SW (N)	300	4	367923 374605

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SE (N)	311	4	368000 374626
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A12NE (NW)	344	4	367567 374449
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A14SW (SE)	346	4	368343 374015
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (NW)	346	4	367717 374568
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SW (NW)	346	4	367717 374568
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A14SW (SE)	362	4	368352 374000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SE (N)	368	4	367938 374680
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SE (N)	371	4	368000 374686
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	375	4	367834 374664
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12SE (SW)	391	4	367461 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	398	4	367925 374709
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SE (N)	410	4	368000 374725

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	413	4	367807 374685
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (NW)	428	4	367718 374662
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A14NW (E)	433	4	368452 374397
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SE (N)	443	4	368000 374758
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SE (N)	443	4	367938 374759
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SE (N)	450	4	368084 374757

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	455	4	367903 374759
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	455	4	367903 374759
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (NW)	457	4	367718 374695
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SW (NW)	457	4	367718 374695
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18SE (NE)	509	4	368255 374756
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18SW (N)	516	4	367719 374761

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (N)	522	4	367928 374835
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel <15 mg/kg Concentration:	A18SE (N)	529	4	368000 374844
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (N)	529	4	367900 374834
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (NW)	542	4	367663 374762
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18SW (N)	591	4	367720 374842
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic <15 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel <15 mg/kg Concentration:	A18NW (N)	633	4	367762 374904

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A19SW (NE)	648	4	368477 374754
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18NW (N)	671	4	367721 374929
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18NE (N)	685	4	367938 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18NE (N)	685	4	368000 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18NW (N)	692	4	367906 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A19SW (NE)	709	4	368558 374753

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18NW (N)	734	4	367721 374996
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A18NW (N)	738	4	367721 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A18NW (N)	740	4	367715 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A17NE (NW)	798	4	367567 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A19NW (NE)	805	4	368423 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12SW (W)	815	4	367000 374199

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	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12NW (W)	822	4	367000 374285
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12NW (W)	831	4	367000 374350
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12SW (W)	834	4	367000 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A12NW (W)	838	4	367000 374388
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A19SE (NE)	848	4	368731 374752
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A12NW (W)	863	4	367000 374481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel <15 mg/kg</p> <p>Concentration:</p>	A19NW (NE)	908	4	368596 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A17SW (NW)	929	4	367000 374649
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A11NE (W)	933	4	366895 374339
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A19NE (NE)	937	4	368640 375000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15SW (E)	941	4	369000 374199
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15NW (E)	941	4	369000 374221

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15NW (E)	942	4	369000 374260
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic <15 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15NW (E)	947	4	369000 374315
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15NW (E)	950	4	369000 374341
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A15SW (E)	965	4	369000 374000
	<p>BGS Estimated Soil Chemistry</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium <1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: <150 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A17SW (NW)	990	4	367000 374768
184	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Primrose Hill Shaft</p> <p>Location: , Rudheath, Northwich, Cheshire</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Reference: 105450</p> <p>Type: Underground</p> <p>Status: Ceased</p> <p>Operator: Unknown Operator</p> <p>Operator Location: Unknown Operator</p> <p>Periodic Type: Triassic</p> <p>Geology: Northwich Halite Member</p> <p>Commodity: Salt</p> <p>Positional Accuracy: Located by supplier to within 10m</p>	A13SW (W)	30	4	367789 374158

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Primrose Hill Shaft Location: , Rudheath, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105449 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Member Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A13SW (SW)	89	4	367771 374061
186	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Primrose Hill Shaft Location: , Rudheath, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105448 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Member Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A13SW (SW)	112	4	367732 374079
186	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Primrose Hill Shaft Location: , Rudheath, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105447 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Member Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A13SW (W)	121	4	367705 374117
187	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Lostock Brineworks Location: , Wincham, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 11773 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Formation Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A13SW (W)	178	4	367655 374090
188	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Primrose Hill Shaft Location: , Rudheath, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105446 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Member Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A13SW (SW)	210	4	367646 374031
189	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Primrose Hill Shaft Location: , Rudheath, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105445 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Member Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A12SE (SW)	355	4	367511 373976

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
190	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Manor Croft Shaft Location: , Wincham, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105443 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Triassic Geology: Northwich Halite Member Commodity: Salt Positional Accuracy: Located by supplier to within 10m</p>	A12NE (NW)	475	4	367401 374436
191	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Wincham Mills Sand Pit Location: A559,A530, Wincham, Northwich, Cheshire Source: British Geological Survey, National Geoscience Information Service Reference: 105751 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Quaternary Geology: Till, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m</p>	A19SE (NE)	771	4	368671 374703
	<p>BGS Measured Urban Soil Chemistry</p> <p>No data available</p>				
	<p>BGS Urban Soil Chemistry Averages</p> <p>No data available</p>				
	<p>Brine Compensation Area</p> <p>Description: In an area which may be affected by subsidence due to salt extraction. It is recommended that the Cheshire Brine Subsidence Compensation Board is contacted for further information. Contact details are included in the Useful Contacts section. Source: Cheshire Brine Subsidence Compensation Board</p>	A13SE (E)	0	9	367938 374199
	<p>Coal Mining Affected Areas</p> <p>In an area that might not be affected by coal mining</p>				
	<p>Mining Instability</p> <p>Mining Evidence: Conclusive Evaporites Mining Source: Ove Arup & Partners Boundary Quality: As Supplied</p>	A13SE (E)	0	-	367938 374199
	<p>Mining Instability</p> <p>Mining Evidence: Inconclusive Evaporites Mining Source: Ove Arup & Partners Boundary Quality: As Supplied</p>	A13SE (E)	0	-	368000 374199
	<p>Man-Made Mining Cavities</p> <p>Easting: 367200 Northing: 374400 Distance: 648 Quadrant Reference: A12 Quadrant Reference: NW Bearing Ref: W Cavity Type: PILLAR & STALL SALT MINE-DETAILS UNKNOWN Commodity: Salt Solid Geology Detail: Mercia Mudstone Group Superficial Geology No Details Detail:</p>	A12NW (W)	648	10	367200 374400
	<p>Man-Made Mining Cavities</p> <p>Easting: 367400 Northing: 374800 Distance: 713 Quadrant Reference: A17 Quadrant Reference: SE Bearing Ref: NW Cavity Type: PILLAR & STALL SALT MINE-DETAILS UNKNOWN Commodity: Salt Solid Geology Detail: Mercia Mudstone Group Superficial Geology No Details Detail:</p>	A17SE (NW)	713	10	367400 374800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Man-Made Mining Cavities Easting: 367100 Northing: 374200 Distance: 715 Quadrant Reference: A12 Quadrant Reference: SW Bearing Ref: W Cavity Type: Not supplied Commodity: Salt Solid Geology Detail: No Details Superficial Geology No Details Detail:	A12SW (W)	715	10	367100 374200
	Man-Made Mining Cavities Easting: 366900 Northing: 374300 Distance: 923 Quadrant Reference: A11 Quadrant Reference: NE Bearing Ref: W Cavity Type: Not supplied Commodity: Salt Solid Geology Detail: No Details Superficial Geology No Details Detail:	A11NE (W)	923	10	366900 374300
	Man-Made Mining Cavities Easting: 366900 Northing: 374400 Distance: 938 Quadrant Reference: A11 Quadrant Reference: NE Bearing Ref: W Cavity Type: Not supplied Commodity: Salt Solid Geology Detail: No Details Superficial Geology No Details Detail:	A11NE (W)	938	10	366900 374400
	Man-Made Mining Cavities Easting: 367100 Northing: 374900 Distance: 992 Quadrant Reference: A17 Quadrant Reference: NW Bearing Ref: NW Cavity Type: Not supplied Commodity: Salt Solid Geology Detail: No Details Superficial Geology No Details Detail:	A17NW (NW)	992	10	367100 374900
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	4	367960 374137
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	35	4	367983 374068
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	4	367960 374137
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	35	4	367983 374068
	Potential for Ground Dissolution Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	4	368010 374218
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	4	367960 374137
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	35	4	367983 374068
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	0	4	367938 374199

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
192	Contemporary Trade Directory Entries Name: Oakmere Volkswagen Location: Manchester Road, Northwich, Cheshire, CW9 7NA Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (NW)	134	-	367812 374378
192	Contemporary Trade Directory Entries Name: Oakmere Toyota Location: Manchester Road, Northwich, Cheshire, CW9 7NA Classification: Car Customisation & Conversion Specialists Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (NW)	139	-	367851 374405
193	Contemporary Trade Directory Entries Name: A & B Autos Location: 211-215, Manchester Road, Northwich, Cheshire, CW9 7NB Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (N)	206	-	367900 374499
193	Contemporary Trade Directory Entries Name: M C Garages Ltd Location: 211-215, Manchester Road, Northwich, Cheshire, CW9 7NB Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (N)	206	-	367900 374499
194	Contemporary Trade Directory Entries Name: Cleaning Force Ltd Location: 241-243, Manchester Road, Northwich, Cheshire, CW9 7NE Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (N)	214	-	368011 374529
194	Contemporary Trade Directory Entries Name: Intrim Location: 241-243, Manchester Road, Northwich, Cheshire, CW9 7NE Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	214	-	368011 374529
195	Contemporary Trade Directory Entries Name: County Motors (Uk) Ltd Location: 225, Manchester Road, Northwich, Cheshire, CW9 7NB Classification: Car Dealers - Used Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (N)	222	-	367942 374530
196	Contemporary Trade Directory Entries Name: I C S Tricool Thermal Location: 267, Manchester Road, Northwich, Cheshire, CW9 7NE Classification: Industrial Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	253	-	368085 374553
196	Contemporary Trade Directory Entries Name: Rmj Services Ltd Location: 277, Manchester Road, Northwich, Cheshire, CW9 7NE Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (NE)	279	-	368122 374565
197	Contemporary Trade Directory Entries Name: J E B Precision Ltd Location: Works Lane, Lostock Gralam, NORTHWICH, Cheshire, CW9 7NW Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	263	-	368201 374484
197	Contemporary Trade Directory Entries Name: Lostock Car Centre Location: 162, Manchester Road, Northwich, Cheshire, CW9 7NN Classification: Car Dealers - Used Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	272	-	368177 374521
198	Contemporary Trade Directory Entries Name: Disability Equipment Services Location: 145, Manchester Road, Northwich, Cheshire, CW9 7LS Classification: Disability Equipment - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (NW)	269	-	367605 374376

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
199	Contemporary Trade Directory Entries Name: Zeneca Resins Location: Lostock Works, Works Lane, Northwich, Cheshire, CW9 7ZR Classification: Chemical Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	293	-	368346 374268
199	Contemporary Trade Directory Entries Name: Solvay Speciality Chemicals Ltd Location: Lostock Works, Works Lane, Northwich, Cheshire, CW9 7ZR Classification: Chemical Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (E)	293	-	368346 374268
200	Contemporary Trade Directory Entries Name: Mid Cheshire Damp & Timber Location: 8, Brook Street, Northwich, Cheshire, CW9 7NH Classification: Damp & Dry Rot Control Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (NE)	316	-	368127 374605
201	Contemporary Trade Directory Entries Name: Hiq Location: 131, Manchester Road, NORTHWICH, Cheshire, CW9 7LS Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	326	-	367531 374364
201	Contemporary Trade Directory Entries Name: Hiq Northwich Location: 131, Manchester Road, Northwich, Cheshire, CW9 7LS Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	326	-	367531 374364
201	Contemporary Trade Directory Entries Name: Hiq Location: 131, Manchester Road, Northwich, Cheshire, CW9 7LS Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	326	-	367531 374364
202	Contemporary Trade Directory Entries Name: Mere Classics Location: Cranage Lane, Northwich, Cheshire, CW9 7LY Classification: Classic Car Specialists Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	377	-	367563 374495
203	Contemporary Trade Directory Entries Name: A B Pest Control Location: 323, Manchester Road, Northwich, Cheshire, CW9 7NL Classification: Pest & Vermin Control Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (NE)	400	-	368255 374623
204	Contemporary Trade Directory Entries Name: Point Preparation Ltd Location: Denton Dr, Northwich, Cheshire, CW9 7LU Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	419	-	367437 374382
204	Contemporary Trade Directory Entries Name: Chester Exhaust Supplies Location: Denton Dr, Northwich, Cheshire, CW9 7LU Classification: Exhaust System Manufacturers & Wholesalers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	444	-	367423 374412
205	Contemporary Trade Directory Entries Name: Arnold Clark Location: Manchester Road, Northwich, Cheshire, CW9 5GG Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	436	-	367378 374173
205	Contemporary Trade Directory Entries Name: Arnold Clark Location: Manchester Road, Northwich, Cheshire, CW9 5GG Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	436	-	367378 374173

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
206	Contemporary Trade Directory Entries Name: A J Hancock Location: Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	439	-	367408 374362
206	Contemporary Trade Directory Entries Name: A J Hancock Ltd Location: Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	439	-	367408 374362
207	Contemporary Trade Directory Entries Name: Peak Engineering Location: Stanley Grove, Northwich, Cheshire, CW9 7NP Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	463	-	368367 374598
207	Contemporary Trade Directory Entries Name: Car Go Location: The Workshop, Stanley Grove, Northwich, Cheshire, CW9 7NP Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A19SW (NE)	482	-	368407 374575
207	Contemporary Trade Directory Entries Name: Car-Go Location: The Workshop, Stanley Grove, Northwich, Cheshire, CW9 7NP Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A19SW (NE)	482	-	368407 374575
208	Contemporary Trade Directory Entries Name: P H & M A Brookes Ltd Location: Unit 6, Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Precision Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	468	-	367476 374534
208	Contemporary Trade Directory Entries Name: Hamilton Location: Unit 7, Heron Court, Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Catering Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	498	-	367451 374552
208	Contemporary Trade Directory Entries Name: Truck Port Services Location: Unit 1, Heron Court, Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	512	-	367430 374547
209	Contemporary Trade Directory Entries Name: Charlie Browns Autocentres Location: Unit 4, Northwich Retail Park, Manchester Road, Northwich, Cheshire, CW9 5LY Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	505	-	367342 374372
210	Contemporary Trade Directory Entries Name: Ellis Welding Ltd Location: 5, Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Engineering Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	513	-	367363 374444
210	Contemporary Trade Directory Entries Name: European Spectrometry Systems Ltd Location: Genesys House, Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Scientific Apparatus & Instruments - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (W)	542	-	367329 374440

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
211	Contemporary Trade Directory Entries Name: Multiplastics Europe Ltd Location: Columbus House, 30, Manchester Road, Northwich, Cheshire, CW9 5ND Classification: Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	529	-	367291 374109
211	Contemporary Trade Directory Entries Name: N K Spedition Ltd Location: Columbus House, 30, Manchester Road, Northwich, Cheshire, CW9 5ND Classification: Freight Forwarders Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (W)	529	-	367291 374109
212	Contemporary Trade Directory Entries Name: T G Builders Merchants Location: Wincham Mill, Manchester Road, Wincham, Northwich, Cheshire, CW9 7NS Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A19SW (NE)	534	-	368479 374564
212	Contemporary Trade Directory Entries Name: T G Builders Merchants Location: Wincham Mill, Manchester Road, Wincham, Northwich, Cheshire, CW9 7NS Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	534	-	368479 374564
213	Contemporary Trade Directory Entries Name: Currys Location: Unit 4, Northwich Retail Park, Manchester Road, Northwich, Cheshire, CW9 5LY Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	570	-	367263 374336
214	Contemporary Trade Directory Entries Name: Kc Autos Location: M B C House, Denton Drive, Northwich, Cheshire, CW9 7LU Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	571	-	367365 374559
215	Contemporary Trade Directory Entries Name: Automatic Handling (Europe) Ltd Location: Denton Drive Indust Est, Northwich, Cheshire, CW9 7LU Classification: Engineers - General Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	589	-	367312 374512
215	Contemporary Trade Directory Entries Name: C C Light Haulage Location: Unit 3, Kingfisher Court, Northwich, Cheshire, CW9 7TT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	608	-	367281 374494
215	Contemporary Trade Directory Entries Name: Safe T Solutions Ltd Location: Unit 1, Kingfisher Court, Northwich, Cheshire, CW9 7TT Classification: Medical Equipment Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	617	-	367281 374513
215	Contemporary Trade Directory Entries Name: Gemini Automatic Doors Location: Unit 7, Kingfisher Court, Northwich, Cheshire, CW9 7TT Classification: Door & Gate Operating Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	632	-	367248 374480
215	Contemporary Trade Directory Entries Name: Compass Aluminium Ltd Location: Unit 7, Kingfisher Court, Northwich, Cheshire, CW9 7TT Classification: Aluminium Fabricators Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NW (W)	632	-	367248 374480

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
215	<p>Contemporary Trade Directory Entries</p> <p>Name: Don Richardson Ltd Location: Unit 8, Kingfisher Court, Northwich, Cheshire, CW9 7TS Classification: Chemicals - Distributors & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12NW (NW)	638	-	367246 374490
216	<p>Contemporary Trade Directory Entries</p> <p>Name: Eco Option Uk Ltd Location: Eco Option House, Griffiths Road, Lostock Gralam, Northwich, Cheshire, CW9 7XU Classification: Reclamation Centres Status: Active Positional Accuracy: Manually positioned to the road within the address or location</p>	A14NW (NE)	591	-	368568 374518
216	<p>Contemporary Trade Directory Entries</p> <p>Name: Auto Bodyshop Ltd Location: Griffiths Road, Lostock Gralam, Northwich, Cheshire, CW9 7NU Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NE (NE)	623	-	368618 374490
216	<p>Contemporary Trade Directory Entries</p> <p>Name: Jack Richards & Son Ltd Location: Griffiths Road, Lostock Gralam, Northwich, Cheshire, CW9 7NU Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A14NW (NE)	626	-	368611 374512
217	<p>Contemporary Trade Directory Entries</p> <p>Name: K B Motors Location: Middlewich Road, Rudheath, Northwich, Cheshire, CW9 7DR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	592	-	367795 373510
217	<p>Contemporary Trade Directory Entries</p> <p>Name: Ags Autocare Location: 249, Middlewich Road, Rudheath, Northwich, Cheshire, CW9 7DR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	634	-	367777 373471
217	<p>Contemporary Trade Directory Entries</p> <p>Name: Superclean Location: 249, Middlewich Road, Rudheath, Northwich, Cheshire, CW9 7DR Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	634	-	367777 373471
218	<p>Contemporary Trade Directory Entries</p> <p>Name: Thor Specialities (Uk) Ltd Location: Wincham Avenue, Wincham, NORTHWICH, Cheshire, CW9 6GB Classification: Chemicals & Allied Products Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	628	-	368015 374943
219	<p>Contemporary Trade Directory Entries</p> <p>Name: Dobsons Buses Ltd Location: Chapel Street, Wincham, Northwich, Cheshire, CW9 6DA Classification: Bus & Coach Operators & Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18SW (NW)	637	-	367612 374842
219	<p>Contemporary Trade Directory Entries</p> <p>Name: New Platt Motors Location: Chapel Street, Wincham, Northwich, Cheshire, CW9 6DA Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18SW (NW)	648	-	367648 374873
220	<p>Contemporary Trade Directory Entries</p> <p>Name: Gemini Automatic Doors Location: Unit 4, Kingfisher Court, Northwich, Cheshire, CW9 7TT Classification: Door & Gate Operating Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17SE (NW)	647	-	367269 374552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
221	Contemporary Trade Directory Entries Name: Absolute Cleaning Location: 27, Edward Street, Northwich, Cheshire, CW9 7DQ Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	651	-	367451 373596
221	Contemporary Trade Directory Entries Name: Northwich Radiator Services Location: Edward St, Rudheath/, Northwich, Cheshire, CW9 7DQ Classification: Car Radiator Servicing & Repairs Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	660	-	367444 373590
222	Contemporary Trade Directory Entries Name: G Cross & Sons (Northwich) Ltd Location: Chapel Street, Wincham, Northwich, Cheshire, CW9 6DA Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	655	-	367754 374924
223	Contemporary Trade Directory Entries Name: Mots Location: Unit 2,Griffiths Park Ind Est,Middlewich Rd, Northwich, Cheshire, CW9 7DR Classification: Garage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	658	-	367885 373437
224	Contemporary Trade Directory Entries Name: Sovereign Car Centre Location: 201-203, Middlewich Road, Northwich, Cheshire, CW9 7DN Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	667	-	367566 373506
224	Contemporary Trade Directory Entries Name: Hp Performance Location: 201-203, Middlewich Road, Northwich, Cheshire, CW9 7DN Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SW)	667	-	367566 373506
224	Contemporary Trade Directory Entries Name: Zenith Motors Location: 201A Middlewich Rd, Northwich, Cheshire, CW9 7DN Classification: Car Dealers - Used Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	712	-	367559 373460
225	Contemporary Trade Directory Entries Name: Rudheath Mot Centre Location: Unit 3/4, Hargreaves Court, Hargreaves Road, Northwich, Cheshire, CW9 7BL Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SW)	670	-	367252 373794
225	Contemporary Trade Directory Entries Name: Utility Innovations Solutions Ltd Location: Unit 2, Hargreaves Court, Hargreaves Road, Northwich, Cheshire, CW9 7BL Classification: Sheet Metal Working Equipment & Supplies Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SW)	686	-	367228 373804
225	Contemporary Trade Directory Entries Name: A & B Autos Hargreaves Location: Unit 2, Hargreaves Court, Hargreaves Road, Northwich, Cheshire, CW9 7BL Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	686	-	367228 373804
225	Contemporary Trade Directory Entries Name: Tyrewise Location: Unit 1, Hargreaves Court, Hargreaves Road, Northwich, Cheshire, CW9 7BL Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SW)	697	-	367222 373792
225	Contemporary Trade Directory Entries Name: T W G Nissan Ltd Location: Hargreaves Rd, Northwich, Cheshire, CW9 7BL Classification: Car Dealers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A7NW (SW)	697	-	367222 373792

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
225	<p>Contemporary Trade Directory Entries</p> <p>Name: Three Ways Garage Location: Hargreaves Court, Hargreaves Rd, Northwich, Cheshire, CW9 7BL Classification: Garage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality</p>	A7NW (SW)	697	-	367222 373792
226	<p>Contemporary Trade Directory Entries</p> <p>Name: North West Truck Services Ltd Location: Griffiths Road, Lostock Grlam, Northwich, Cheshire, CW9 7NU Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A19SE (NE)	689	-	368629 374616
226	<p>Contemporary Trade Directory Entries</p> <p>Name: North West Truck Services Ltd Location: Griffiths Road, Lostock Grlam, Northwich, Cheshire, CW9 7NU Classification: Commercial Vehicle Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A19SE (NE)	689	-	368629 374616
226	<p>Contemporary Trade Directory Entries</p> <p>Name: Francis Transport Location: Griffiths Road, Lostock Grlam, Northwich, Cheshire, CW9 7NU Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A19SE (NE)	719	-	368628 374675
226	<p>Contemporary Trade Directory Entries</p> <p>Name: J W Barrow & Co Location: Griffiths Road, Lostock Grlam, Northwich, Cheshire, CW9 7NU Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A19SE (NE)	721	-	368654 374637
227	<p>Contemporary Trade Directory Entries</p> <p>Name: Tesco Stores Ltd Location: Manchester Road, Northwich, Cheshire, CW9 5LY Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A12SW (W)	704	-	367121 374060
228	<p>Contemporary Trade Directory Entries</p> <p>Name: Eslick & Winnington Location: 18, Farm Road, Rudheath, Northwich, Cheshire, CW9 7DY Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (S)	709	-	368070 373401
229	<p>Contemporary Trade Directory Entries</p> <p>Name: Olympus Narrow Boats Location: Wincham Wharf, 220 Manchester Rd, Lostock Grlam, Northwich, Cheshire, CW9 7NT Classification: Boatbuilders & Repairers Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A19SW (NE)	713	-	368587 374720
229	<p>Contemporary Trade Directory Entries</p> <p>Name: Wincham Wharf Boat Builders Ltd Location: Wincham Wharf, 220, Manchester Road, Lostock Grlam, Northwich, Cheshire, CW9 7NT Classification: Boatbuilders & Repairers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A19SW (NE)	714	-	368588 374721
229	<p>Contemporary Trade Directory Entries</p> <p>Name: M & I Marine Ltd Location: Wincham Wharf, 220, Manchester Road, Lostock Grlam, Northwich, Cheshire, CW9 7NT Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A19SW (NE)	714	-	368588 374721
230	<p>Contemporary Trade Directory Entries</p> <p>Name: Neuman & Esser Location: Ascot Court, 71-73, Middlewich Road, Northwich, Cheshire, CW9 7BP Classification: Air Compressors Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A7NE (SW)	714	-	367269 373689

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
230	<p>Contemporary Trade Directory Entries</p> <p>Name: Peak Catering Equipment Ltd Location: Ascot Court, 71-73, Middlewich Road, Northwich, Cheshire, CW9 7BP Classification: Catering Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A7NE (SW)	714	-	367269 373689
230	<p>Contemporary Trade Directory Entries</p> <p>Name: Cheshire Home Help Location: Ascot Court, 71-73, Middlewich Road, Northwich, Cheshire, CW9 7BP Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A7NE (SW)	714	-	367269 373689
230	<p>Contemporary Trade Directory Entries</p> <p>Name: T W G Hyundai Ltd Location: Hargreaves Road, Northwich, Cheshire, CW9 7BL Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7NW (SW)	733	-	367229 373712
231	<p>Contemporary Trade Directory Entries</p> <p>Name: Oakmere Mazda Location: Weavergate House, Retail Park East, Chester Way, Northwich, Cheshire, CW9 5NN Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12NW (W)	733	-	367083 374225
232	<p>Contemporary Trade Directory Entries</p> <p>Name: Monarch Food International Location: C,O Yersley Coldstore,Heath Farm,Heath La, Wincham, Northwich, Cheshire, CW9 6DB Classification: Meat - Wholesale Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A17SE (NW)	769	-	367327 374812
232	<p>Contemporary Trade Directory Entries</p> <p>Name: Monarch Food International Location: Heath La, Wincham, Northwich, Cheshire, CW9 6DB Classification: Meat - Wholesale Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A17SE (NW)	769	-	367327 374812
233	<p>Contemporary Trade Directory Entries</p> <p>Name: Bartec Paper & Packaging Ltd Location: Wincham Avenue, Wincham, NORTHWICH, Cheshire, CW9 6GB Classification: Packaging Materials Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	783	-	368077 375094
234	<p>Contemporary Trade Directory Entries</p> <p>Name: Exclusively Nine-Porsche Location: Care Of Christopher Neil,Middlewich Rd, Northwich, Cheshire, CW9 7BP Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A7NW (SW)	795	-	367154 373714
235	<p>Contemporary Trade Directory Entries</p> <p>Name: Davies Location: 33, Brook Lane, Northwich, Cheshire, CW9 7EY Classification: Building Block Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	796	-	367624 373343
236	<p>Contemporary Trade Directory Entries</p> <p>Name: Kingsmead Polymers Location: Canal Side, Chapel Street, Wincham, Northwich, Cheshire, CW9 6DA Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18NW (N)	804	-	367636 375038
237	<p>Contemporary Trade Directory Entries</p> <p>Name: Lhj Domestic Services Location: 24, Brook Lane, Northwich, Cheshire, CW9 7EY Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	819	-	367646 373312

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
237	Contemporary Trade Directory Entries Name: Diamond Location: 14, Brook Lane, Northwich, Cheshire, CW9 7EY Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	861	-	367618 373278
238	Contemporary Trade Directory Entries Name: O'Neils Shutters Location: 32, Richard Street, Northwich, Cheshire, CW9 7DL Classification: Door Manufacturers - Industrial Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	840	-	367362 373427
239	Contemporary Trade Directory Entries Name: Industrial Cleaning Products Ltd Location: Elm St, Northwich, Cheshire, CW9 5LZ Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	851	-	366966 374117
240	Contemporary Trade Directory Entries Name: Evans Halshaw Location: Chester Way, Northwich, Cheshire, CW9 5NQ Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A12NW (W)	864	-	366952 374222
240	Contemporary Trade Directory Entries Name: Bramall Quicks Location: Chester Way, Northwich, Cheshire, CW9 5NQ Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	864	-	366952 374222
241	Contemporary Trade Directory Entries Name: Eveque Leisure Equipment Location: Unit 11, Wincham Avenue, Wincham, Northwich, Cheshire, CW9 6GB Classification: Sports Equipment Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A18NE (N)	864	-	367991 375179
242	Contemporary Trade Directory Entries Name: Andrew Schofield Location: 2, William Street, Northwich, Cheshire, CW9 7AE Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	946	-	366959 373762
243	Contemporary Trade Directory Entries Name: Auto Service Centre Location: Shannon House, Wincham Avenue, Wincham, Northwich, Cheshire, CW9 6GB Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A23SW (N)	957	-	367868 375263
244	Contemporary Trade Directory Entries Name: Express Asphalt Location: Wincham Avenue, Wincham, Northwich, Cheshire, CW9 6GB Classification: Asphalt & Macadam Suppliers Status: Active Positional Accuracy: Automatically positioned in the proximity of the address	A23SW (N)	963	-	367934 375276
244	Contemporary Trade Directory Entries Name: Paul Booth Location: Wincham Av, Wincham, Northwich, Cheshire, CW9 6GB Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A23SW (N)	976	-	367904 375286
245	Contemporary Trade Directory Entries Name: Paper Dots Location: 5, Manchester Road, Northwich, Cheshire, CW9 5LY Classification: Greeting Card Publishers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SE (W)	965	-	366869 373988

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
246	<p>Contemporary Trade Directory Entries</p> <p>Name: Killsect Location: 26, Cotebrook Road, Northwich, Cheshire, CW9 7AT Classification: Pest & Vermin Control Status: Active Positional Accuracy: Automatically positioned to the address</p>	A7NW (SW)	972	-	367058 373540
247	<p>Fuel Station Entries</p> <p>Name: Middlewich Road Service Station Location: 201-203, Middlewich Road, NORTHWICH, Cheshire, CW9 7DN Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address</p>	A7SE (SW)	668	-	367566 373506
248	<p>Fuel Station Entries</p> <p>Name: Tesco Northwich Location: Manchester Road, Northwich, Cheshire, CW9 5LY Brand: TESCO Premises Type: Hypermarket Status: Open Positional Accuracy: Manually positioned to the address or location</p>	A12SW (W)	912	-	366926 373974

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
249	Areas of Adopted Green Belt Authority: Vale Royal Borough Council (now part of Cheshire West and Chester Council) Plan Name: Vale Royal Borough Council Local Plan - First Review Alteration Status: Adopted Plan Date: 16th June 2006	A12SE (W)	532	11	367283 374193
250	Nitrate Vulnerable Zones Name: Not Supplied Description: Surface Water Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	A13SE (E)	0	12	367938 374199

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Cheshire East Council - Environmental Health Department Macclesfield Borough Council (now part of Cheshire East Council) - Health and Public Safety Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Community Services Directorate Cheshire West and Chester Council - Environmental Health Department	April 2014 July 2008 November 2008 November 2013	Annually Not Applicable Not Applicable Annually
Discharge Consents Environment Agency - North West Region	January 2015	Quarterly
Enforcement and Prohibition Notices Environment Agency - North West Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - North West Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - North West Region	April 2015	Quarterly
Local Authority Integrated Pollution Prevention And Control Macclesfield Borough Council (now part of Cheshire East Council) - Environmental Health Department Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Environmental Health Department Cheshire West and Chester Council - Environmental Health Department Cheshire East Council - Environmental Health Department	February 2009 June 2009 October 2013 September 2014	Not Applicable Not Applicable Annually Annually
Local Authority Pollution Prevention and Controls Macclesfield Borough Council (now part of Cheshire East Council) - Environmental Health Department Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Environmental Health Department Cheshire West and Chester Council - Environmental Health Department Cheshire East Council - Environmental Health Department	February 2009 June 2009 October 2013 September 2014	Not Applicable Not Applicable Annually Annually
Local Authority Pollution Prevention and Control Enforcements Macclesfield Borough Council (now part of Cheshire East Council) - Environmental Health Department Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Environmental Health Department Cheshire West and Chester Council - Environmental Health Department Cheshire East Council - Environmental Health Department	February 2009 June 2009 October 2013 September 2014	Not Applicable Not Applicable Annually Annually
Nearest Surface Water Feature Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North West Region	March 2013	As notified
Prosecutions Relating to Controlled Waters Environment Agency - North West Region	March 2013	As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	April 2015	Quarterly
Water Abstractions Environment Agency - North West Region	January 2015	Quarterly

Agency & Hydrological	Version	Update Cycle
Water Industry Act Referrals Environment Agency - North West Region	April 2015	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	As notified
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	January 2015	As notified
Source Protection Zones Environment Agency - Head Office	April 2015	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2015	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2015	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2015	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2015	Quarterly
Flood Defences Environment Agency - Head Office	May 2015	Quarterly
Detailed River Network Lines Environment Agency - Head Office	March 2012	Annually
Detailed River Network Offline Drainage Environment Agency - Head Office	March 2012	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - North West Region - South Area	February 2015	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North West Region - South Area	August 2014	Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North West Region - South Area Environment Agency - Thames Region - West Area	April 2015 April 2015	Quarterly Quarterly
Local Authority Landfill Coverage Cheshire County Council (now part of Cheshire East Council) - Environmental Planning Department Macclesfield Borough Council (now part of Cheshire East Council) - Environmental Health Department Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Environmental Health Department	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Cheshire County Council (now part of Cheshire East Council) - Environmental Planning Department Macclesfield Borough Council (now part of Cheshire East Council) - Environmental Health Department Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Environmental Health Department	February 2005 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	January 2015	Bi-Annually
Explosive Sites Health and Safety Executive	October 2014	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Vale Royal Borough Council (now part of Cheshire West and Chester Council) Macclesfield Borough Council (now part of Cheshire East Council) - Planning Department Cheshire County Council (now part of Cheshire East Council) - Planning Department Cheshire East Council - Planning Department Cheshire West and Chester Council - Planning Department	August 2009 December 2008 July 2008 October 2013 October 2013	Not Applicable Not Applicable Annual Rolling Update Annually Annually
Planning Hazardous Substance Consents Vale Royal Borough Council (now part of Cheshire West and Chester Council) Macclesfield Borough Council (now part of Cheshire East Council) - Planning Department Cheshire County Council (now part of Cheshire East Council) - Planning Department Cheshire East Council - Planning Department Cheshire West and Chester Council - Planning Department	August 2009 December 2008 July 2008 October 2013 October 2013	Not Applicable Not Applicable Annual Rolling Update Annually Annually

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	January 2010	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	May 2015	Bi-Annually
Brine Compensation Area Cheshire Brine Subsidence Compensation Board	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Mining Report Service	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	July 2014	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2014	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	February 2015	Quarterly
Fuel Station Entries Catalist Ltd - Experian	May 2015	Quarterly

Sensitive Land Use	Version	Update Cycle
Areas of Adopted Green Belt Macclesfield Borough Council (now part of Cheshire East Council) Vale Royal Borough Council (now part of Cheshire West and Chester Council)	May 2015 May 2015	As notified As notified
Areas of Unadopted Green Belt Macclesfield Borough Council (now part of Cheshire East Council) Vale Royal Borough Council (now part of Cheshire West and Chester Council)	May 2015 May 2015	As notified As notified
Areas of Outstanding Natural Beauty Natural England	February 2015	Bi-Annually
Environmentally Sensitive Areas Natural England	August 2014	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	April 2015	Bi-Annually
Marine Nature Reserves Natural England	July 2013	Bi-Annually
National Nature Reserves Natural England	March 2015	Bi-Annually
National Parks Natural England	February 2015	Bi-Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2012	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	July 2014	Annually
Ramsar Sites Natural England	March 2014	Bi-Annually
Sites of Special Scientific Interest Natural England	April 2015	Bi-Annually
Special Areas of Conservation Natural England	March 2014	Bi-Annually
Special Protection Areas Natural England	April 2015	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 <p>British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL</p>
Centre for Ecology and Hydrology	 <p>Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL</p>
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
3	Cheshire West and Chester Council - Environmental Health Department County Hall, Chester, CH1 1SF	Telephone: 0300 1238 123 Email: enquiries@cheshirewestandchester.gov.uk Website: www.cheshirewestandchester.gov.uk
4	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
5	Vale Royal Borough Council (now part of Cheshire West and Chester Council) - Environmental Health Department 58 Nicholas Street, Chester, Cheshire, CH1 2NP	Telephone: 0300 123 8123 Email: enquiries@cheshirewestandchester.gov.uk Website: www.cheshirewestandchester.gov.uk
6	Cheshire County Council (now part of Cheshire East Council) - Environmental Planning Department Westfields, Middlewich Road, Sandbach, Cheshire, CW11 1HZ	Telephone: 0300 123 5015 Website: www.cheshireeast.gov.uk
7	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
8	Cheshire West and Chester Council - Planning Department County Hall, Cheshire, CH1 1SF	Telephone: 0300 1238 123 Email: enquiries@cheshirewestandchester.gov.uk Website: www.cheshirewestandchester.gov.uk
9	Cheshire Brine Subsidence Compensation Board Sir Henry Doulton House, Forge Lane, Etruria, Stoke on Trent, Staffordshire, ST1 5BD	Telephone: 0845 002 0562 Fax: 0845 111 8888 Email: info@cheshirebrine.com Website: www.cheshirebrine.com
10	Peter Brett Associates Caversham Bridge House, Waterman Place, Reading, Berkshire, RG1 8DN	Telephone: 0118 950 0761 Fax: 0118 959 7498 Email: reading@pba.co.uk Website: www.pba.co.uk
11	Vale Royal Borough Council (now part of Cheshire West and Chester Council) 58 Nicholas Street, Chester, Cheshire, CH1 2NP	Telephone: 0300 1238123 Email: enquiries@cheshirewestandchester.gov.uk Website: www.cheshirewestandchester.gov.uk
12	Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
13	Natural England Suite D, Unex House, Bourges Boulevard, Peterborough, Cambridgeshire, PE1 1NG	Telephone: 0845 600 3078 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk



Useful Contacts

Contact	Name and Address	Contact Details
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Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Annex 9.A.4: Part IIA (The Contaminated Land Regime)

Contaminated Land Definition

Under Section 57 of the Environmental Act 1995, Part 2A was inserted into the Environmental Protection Act 1990 to include provisions for the management of contaminated land.

Subsequent regulations were first implemented in England in April 2000, Scotland in July 2000 and Wales in July 2001¹, providing a definition of 'contaminated land' and setting out the nature of liabilities that can be incurred by owners of contaminated land and groundwater.

According to the Act, contaminated land is defined as 'any land which appears to the local authority in whose area the land is situated to be in such a condition, by reason of substances in, on or under the land that:

- a) *significant harm* is being caused or there is a *significant possibility* of such harm being caused; or
- b) *significant pollution* of controlled waters² is being caused or there is a significant possibility of such pollution being caused³,

The guidance on determining whether a particular possibility is significant is based on the principles of risk assessment and in particular on considerations of the magnitude or consequences of the different types of significant harm caused. The term 'possibility of significant harm being caused' should be taken, as referring to a measure of the probability, or frequency, of the occurrence of circumstances that could lead to significant harm being caused.

The following situations are defined where harm is to be regarded as significant:

- i. Chronic or acute toxic effect, serious injury or death to humans
- ii. Irreversible or other adverse harm to the ecological system
- iii. Substantial damage to, or failure of, buildings
- iv. Disease, other physical damage or death of livestock or crops
- v. The pollution of controlled waters⁴.

¹ In England by The Contaminated Land (England) Regulations 2000, updated by The Contaminated Land (England) (Amendment) Regulations 2012; in Scotland by The Contaminated Land (Scotland) Regulations 2000, updated by the Contaminated Land (Scotland) Regulations 2005; and in Wales by The Contaminated Land (Wales) Regulations 2001, updated by the Contaminated Land (Wales) Regulations 2006.

² In Scotland the term "controlled water" has been updated to "water environment" under the Contaminated Land (Scotland) Regulations 2005 in line with the Water Environment and Water Services (Scotland) Act 2003.

³ The definition was amended in 2012 by implementation of the Water Act 2003.

⁴ Groundwater in this context does not include waters within underground strata but above the saturated zone.

With regard to radioactivity, contaminated land is defined as 'any land which appears to be in such a condition, by reason of substances in, on or under the land that harm is being caused, or there is a *significant possibility of such harm being caused*⁵'.

The Risk Assessment Methodology

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risks to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected with the hazard via one or several exposure pathways (e.g. the pathway of direct contact). Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three essential components of a source (hazard), pathway and receptor, there can be no risk. Thus, the mere presence of a hazard at a site does not mean that there will necessarily be attendant risks.

The Risk Assessment

By considering where a viable pathway exists which connects a source with a receptor, this assessment will identify where pollutant linkages may exist. A pollutant linkage is the term used by the DEFRA in their standard procedure on risk assessment. If there is no pollutant linkage, then there is no risk. Therefore, only where a viable pollutant linkage is established does this assessment go on to consider the level of risk. Risk should be based on a consideration of both:

- The likelihood of an event (probability) - takes into account both the presence of the hazard and receptor and the integrity of the pathway.
- The severity of the potential consequence - takes into account both the potential severity of the hazard and the sensitivity of the receptor.

For further information please see the Contaminated Land section on the DEFRA website (www.defra.gov.uk).

⁵ The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006 and Contaminated Land (Wales) Regulations 2006.

Appendix 9.B: Van Elle 2009 Phase II Factual Report

PHASE II Factual Report

Contract : Lostock Works, Cheshire

Date : 16th June 2009

Job Reference : G900000

	NAME	SIGNATURE	DATE
Prepared by:			
Checked by:			
Authorised by:			

Phase II Factual Report

Lostock Works, Cheshire



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2.0 SITE WORKS	3

APPENDICES

A	Site Location Plan
B	Exploratory Hole Location Plan
C	Exploratory Hole Logs
D	Plate Bearing Test Results
E	Geotechnical Laboratory Testing
F	Environmental Laboratory Testing
G	Plates
H	Conditions and Limitations

1.0 INTRODUCTION

1.1 Introduction

Van Elle Total Foundation Solutions (Van Elle) has been appointed by the Client, Viridor Limited, to undertake a Phase II Factual Site Investigation at the Lostock Works site, Cheshire. Van Elle employed the services of GeoDyne Limited to provide certain consultancy services and site supervision of the works.

1.2 Site Investigation Rationale

The objective of the Phase II Factual Site Investigation was to provide information regarding ground conditions in order to facilitate the production of an interpretive geotechnical and environmental assessment to assist in the redevelopment of the site for an alternative land use.

The scope of the works to be undertaken was provided to Van Elle by Wardell Armstrong LLP in their tender information dated 23rd December 2008. The actual scope of works undertaken during the ground investigation is provided in Section 2.0. The actual scope of works completed varied slightly from the information in the tender pack to accommodate changes / requests from Wardell Armstrong in reaction to unforeseen ground conditions and site constraints.

1.3 Site Location

The site constitutes a former Chlorine Plant located to the west of the Lostock Works industrial complex. The works is situated off Griffiths Road, Lostock Gralam, Cheshire and may be located from approximate Ordnance Survey National Grid Reference 367938E 374204N. A Site Location Plan (Figure No. 29002/01) is presented in Appendix A. The Chlorine Plant where ground investigation works has been undertaken by Van Elle is referenced as 'Lostock Works' within this report (see Drawing 29002/02).

1.4 Site Description

The following is transcribed from ICI Soil & Groundwater Contamination Assessment Stage 1 (ref. IC 17971):

'The main process areas are located in the centre of the site and include the chlorine Cellroom and workshop with offices, control room and chlorine and brine treatment to the south. Liquid chlorine storage and loading areas are located to the south with cooling towers to the west and further storages (caustic soda and sodium hypochlorite) to the east of the plant. There is a Pilot Plant, Hydrogen Cooling and Blowing Plant and small electrical substation to the north east. The majority of the remainder of the site is covered by access roads, hardstandings and gravelled areas with rail lines at the north, west and south boundaries.'

The site is surrounded to the east by the Brunner Mond Soda Ash Plant and to the south by Wade Brook, beyond which lies railway lines and further industrial works and associated areas. A mixture of open ground, warehousing, a pond (70m) and a works are located to the north of the site. Railway lines and open ground surround the site to the west.

We understand that the site has been disused for approximately eight years, with much of the former plant infrastructure remaining in situ and unused during this period.

1.5 Limitations and Disclaimers

The ground is a product of continuing natural and artificial process. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time.

The exploratory hole logs given in this report were prepared for the sole benefit of the client in accordance with the brief provided. As such these do not necessarily address all aspects of the ground behaviour on site.

This report relates to the Lostock Works site, Lostock Gralam, Cheshire. Attention is drawn to the fact that the findings are based on data obtained from the exploratory holes and associated laboratory and in-situ testing. The possibility of variation in ground conditions around the trial holes should not be overlooked. Any opinion or diagram of a possible configuration of strata beyond the trial holes or extrapolated to greater depth is conjectural and given for guidance only. No liability can be accepted for such variations.

Van Elle Conditions & Limitations are presented in Appendix H.

2.0 SITE WORKS

2.1 Introduction

The basis for the scope of the site works was outlined in the Wardell Armstrong tender information dated 23rd December 2008. The information included the number of exploratory holes, methods of excavation and the testing to be completed (in / ex situ). The works were undertaken under the full time supervision of Van Elle and GeoDyne and predominately full time supervision of Wardell Armstrong between 30th March and 24th April 2009.

2.2 Health & Safety

A comprehensive health and safety system was employed during the site works for the protection of the site investigation personnel at the request, and under the supervision, of Ineos Chlor (the site owners). The system included the following elements:

- Site induction.
- Permit to dig system including:
 - Preliminary sub contracted service scan.
 - Ineos Chlor service scan.
 - Hand dig to 1.2m below existing ground level (begl).
 - Ineos Chlor second service scan.
- Permit to work system including training of key staff.

2.3 Scope of works

2.3.1 Exploratory Holes

The following exploratory holes were advanced during the course of the ground investigation:

- 23No. Cable percussive boreholes to depths ranging between 1.45m and 15.5m begl including Standard Penetration Tests (SPT). These included BH1-BH7, BH7B, BH8-BH11, BH11A, BH12-BH18, BH18A, BH19-BH20.
- 9No. Window sample boreholes to depths ranging between 1.20m and 5.00m begl including SPT's. These included WS1-WS4, WS7-WS11.
- 11No. Trial pits (excavated with tracked backhoe excavator) to depths ranging between 1.00m to 4.40m begl. These included TP1-TP6, TP8, TP10-TP13.

Representative samples of the Made Ground/Natural Strata were collected during the advancement of the exploratory holes.

The advancement of the following exploratory holes was not possible for the reasons detailed below:

- BH11 – Obstruction encountered at 1.80m begl.
- WS5 – High density of underground services obstructed borehole.

- WS6 – Drilled via cable percussive methods.
- TP7 & TP9 – Underground services exposed during excavation of 1.0m preliminary service inspection pit. These positions were drilled using window sample methods (referenced WS10 and WS8 respectively).

The Exploratory Hole Location Plan is presented in Appendix B (Drawing No. 29002/02) and the exploratory hole logs are presented in Appendix C. Plates providing views of the exploratory holes and resultant horizons are provided in Appendix G.

2.3.2.1 In Situ Testing

The following in situ testing was undertaken during the course of the ground investigation:

- 20No. Plate bearing tests (see Appendix D). Note: plate bearing tests were undertaken in the position of the window sample and trial pit locations.
- SPT Testing (see logs presented in Appendix C).
- Hand shear vane tests (see logs presented in Appendix C).

2.3.3 Ex Situ Testing (Laboratory Analysis)

2.3.3.1 Geotechnical Testing

The following geotechnical laboratory testing was undertaken has been undertaken on samples collected during the course of the ground investigation:

- 22No. 4 Point liquid & plastic Limit
- 32No. Natural moisture content (NMC) tests.
- 29 No. Multistage triaxial tests.
- 16No. Dry density / moisture content relationship tests.
- 28No. Sulphate (water soluble 2:1 extract).
- 32No. Particle size distribution tests (PSD).
- 10No. Consolidation tests (oedometer).

The results of the geotechnical laboratory testing are presented in Appendix E.

2.3.3.2 Environmental Testing (Solid)

The following suites of determinands were scheduled for analysis on soil samples collected during the course of the ground investigation:

- 21No. Solid Suite A (see below)

Metals (As, Cd, Cr, Pb, Hg, Se, Cu, Ni, Zn)
pH
FOC
Speciated PAH (EPA 16) by GC-MS

Phase II Factual Report

Lostock Works, Cheshire



- 22No. Solid Suite B (see below)

Metals (As, Cd, Cr, Pb, Hg, Se, Cu, Ni, Zn)
Asbestos screen
TPH – CWG (aliphatic/aromatic speciation)
SVOC Suite + Tentatively Identified Compounds (TIC)
pH
VOC Suite + TIC
FOC
Speciated PAH (EPA 16) by GC-MS

- 2 No. Leachate Suite A (see below)

Metals (As, Cd, Cr, Pb, Hg, Se, Cu, Ni, Zn)
pH
Speciated PAH (EPA 16) by GC-MS
Leachate Prep - BSEN12457 (single batch 2:1)

- 14No. Leachate Suite B (see below)

Metals (As, Cd, Cr, Pb, Hg, Se, Cu, Ni, Zn)
TPH – CWG (aliphatic/aromatic)
pH
SVOC Suite + TIC
VOC Suite + TIC
Speciated PAH (EPA 16) by GC-MS
Leachate Prep - BSEN12457 (single batch 2:1)

The results of the solid environmental laboratory testing are presented in Appendix F.

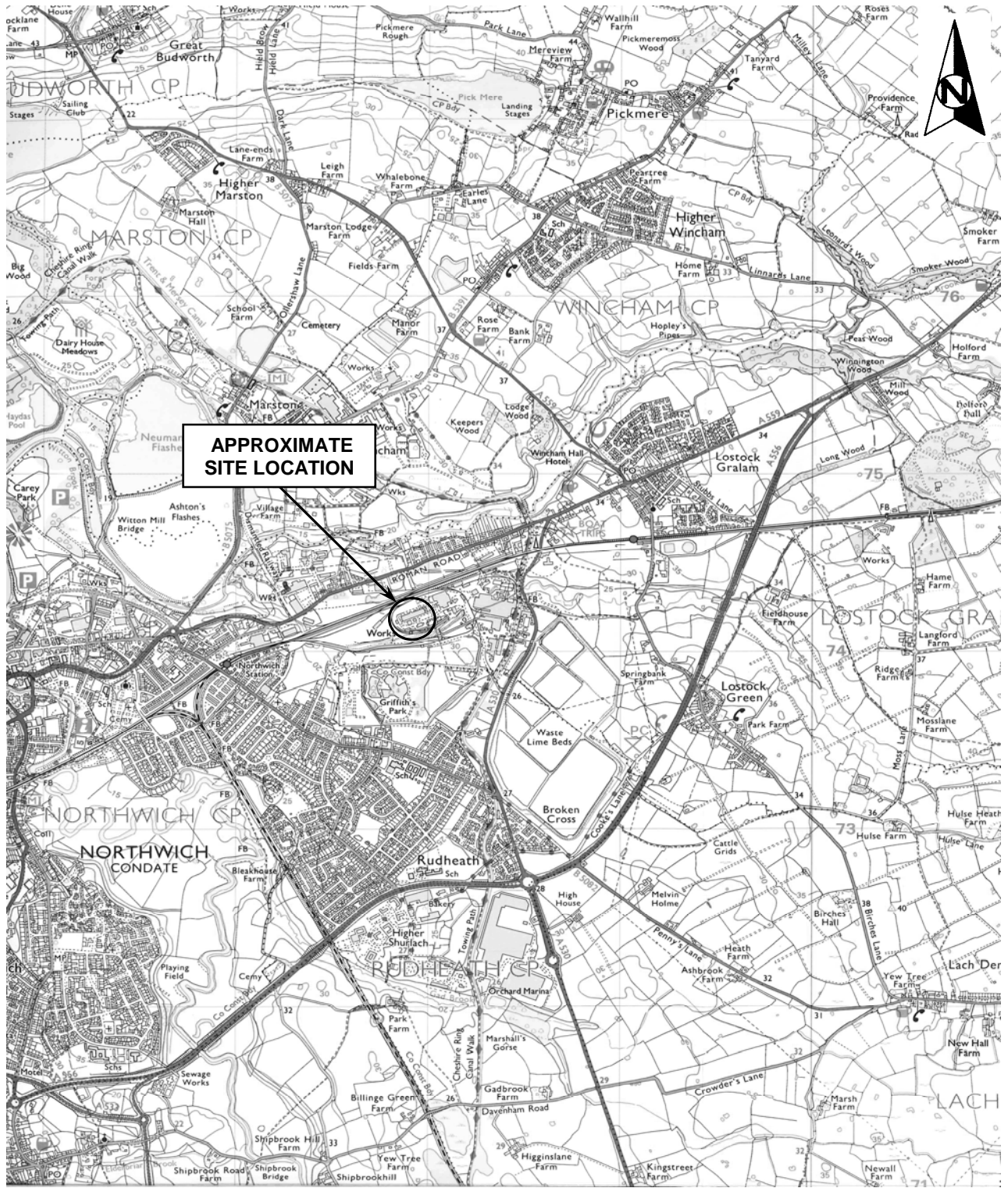
Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix A

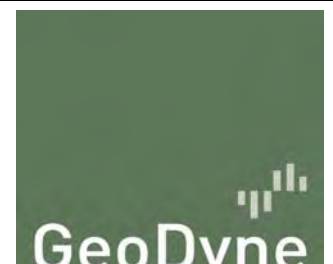
Site Location Plan



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Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
Project	Lostock Works Cheshire	Approved	
		Scale	NTS
Title	Site Location Plan	Rev.	



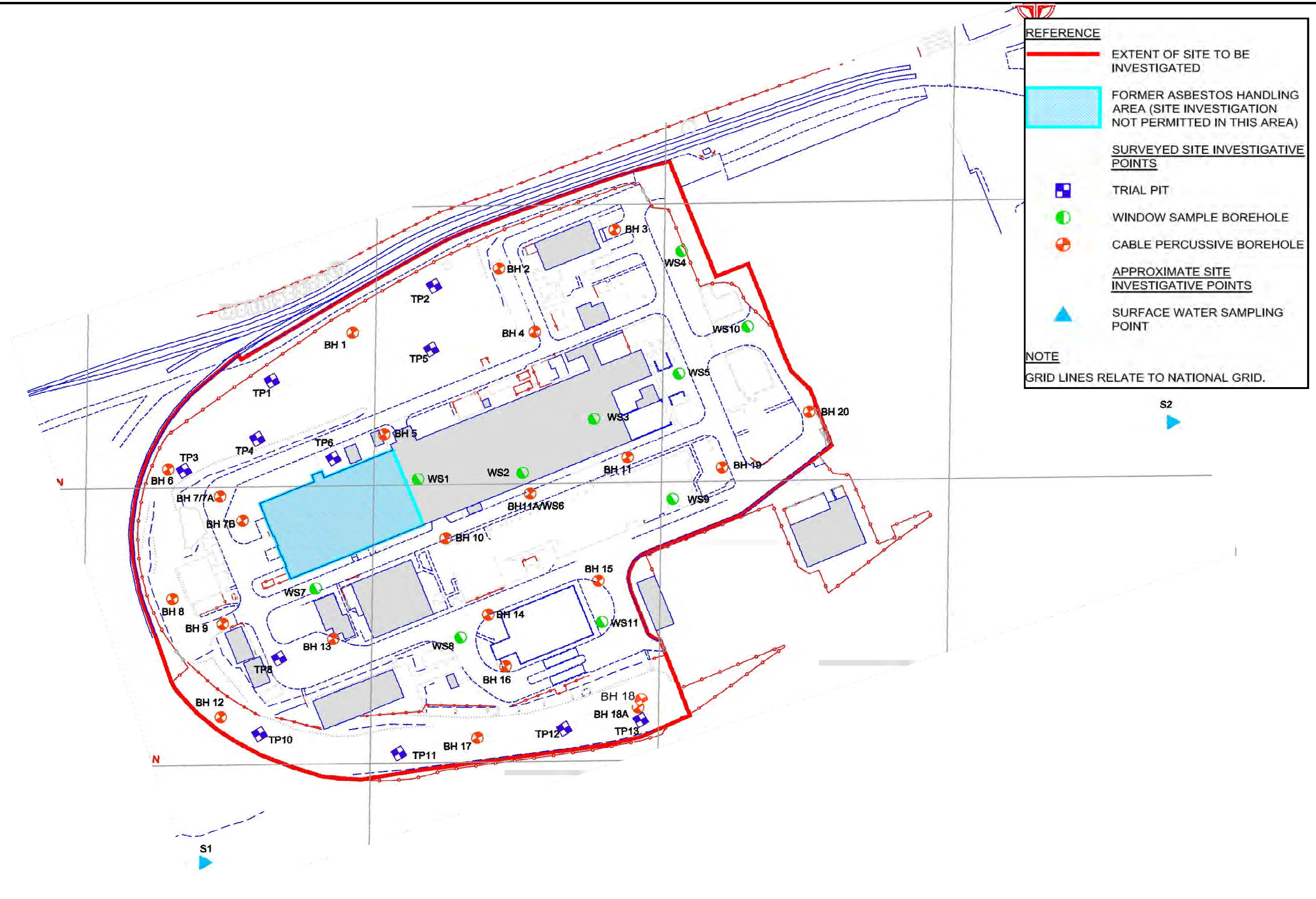
Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix B

Exploratory Hole Location Plan



REFERENCE

- EXTENT OF SITE TO BE INVESTIGATED
- FORMER ASBESTOS HANDLING AREA (SITE INVESTIGATION NOT PERMITTED IN THIS AREA)

SURVEYED SITE INVESTIGATIVE POINTS

- TRIAL PIT
- WINDOW SAMPLE BOREHOLE
- ⊕ CABLE PERCUSSIVE BOREHOLE

APPROXIMATE SITE INVESTIGATIVE POINTS

- ▲ SURFACE WATER SAMPLING POINT

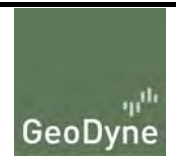
NOTE
GRID LINES RELATE TO NATIONAL GRID.

NOTE
REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION
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DO NOT SCALE

Project No.	29002
Client	Viridor Ltd
Project	Lostock Works Cheshire

Title	Exploratory Hole & Sampling Point Location Plan
Scale	NTS
Revision	

Scale	NTS	Drawn	GJS
Revision		Checked	
Date Drawn	30/04/2009	Approved	
Figure No. 29002/02			













Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix C

Exploratory Hole Logs

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00	B	B2	3	Dark brown clayey sand and gravel including brick, coal, ash and limestone fragments (MADE GROUND)		(0.50)		▽	
0.60	D	D1		Made Ground comprising predominantly ashy clay with occasional coal and brick fragments (MADE GROUND)		(0.65)			
1.20-1.65	S	B4 SD3	26 Blows	Firm to stiff grey-brown very sandy clay with occasional fine to medium gravel of brick and coal (MADE GROUND)		1.15			
1.20-1.70	B			(0.55)					
1.20-1.65	D			1.70					
2.00-2.45	U	U5	37 Blows	Firm to stiff red-brown grey mottled sandy CLAY with sandy partings (BOULDER CLAY)		(0.30)			
2.65	D	D6		2.00					
3.10-3.55	S	B8 SD7	12	Stiff red-brown locally grey mottled slightly silty slightly sandy CLAY (BOULDER CLAY)		(1.90)			
3.10-3.60	B								
3.10-3.55	D								
4.00-4.60	B	B9	37 Blows	Stiff red-brown slightly sandy gravelly CLAY. Gravel is predominantly fine to medium sub-angular to sub-rounded mudstone (BOULDER CLAY)		3.90			
4.60-5.25	U	U10		(2.10)					
5.45	D	D11	32	Weak red-brown highly to completely weathered MUDSTONE recovered as a hard friable slightly gravelly sandy clay. Gravel is predominantly fine to coarse sub-angular mudstone (MUDSTONE)		6.00	6.00		
6.10	D	D12							
6.20-6.65	S								
6.20-7.00	B	B14	50/190mm						
6.20-6.65	D	SD13							
7.60-8.05	S	SD15	50/190mm						
7.60-8.05	D								
8.50-9.00	B	B16	50/100mm						
9.20-9.65	S								
				End of Borehole at 9.65 m		9.65			

Remarks:

- Borehole cased to 6.00m begl.
- Water encountered at approximately 0.65m begl and as seepage between approximately 1.70m and 2.00m begl and 3.10m and 6.00m begl.
- Hand-dug pit to 1.20m begl.
- Chiselling from 8.20m to 9.20m begl (1hr).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 2.00m begl with a gravel surround and bentonite backfill from 2.00m to 9.65m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS


Checked: 

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH1

Date: 30/03/2009

Approved: 

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00	B	B1/B2		Concrete hard standing (MADE GROUND)		0.10			
0.75	D	D3		Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.16			
1.10	D	D4	9	Loosely compacted grey slightly clayey gravelly sand with occasional medium to coarse brick fragments (MADE GROUND)		(0.54)			
1.20-1.65	S			...with frequent tarmacadam gravel at approximately 0.35m begl		0.70			
1.20-1.50	B	B5		Loose to medium dense compacted grey ashy gravelly sand. Gravel is predominantly fine to medium sub-angular clinker, concrete and occasional fine brick (MADE GROUND)		(0.70)			
1.50	B	B6				1.80			
1.80	B	D7		Medium dense dark grey-brown slightly clayey slightly ashy gravelly sand. Gravel included medium to coarse brick, fine coal traces, rare roots and a slight unknown odour (MADE GROUND)		2.00			
2.00-2.45	U	U8	16 Blows			2.65			
2.65	D	D9		Firm black closely mottled dark grey sandy organic clay with occasional fine brick and black clinker gravel (MADE GROUND)					
2.90-3.35	U	U10	29 Blows						
3.55	D	D11		Stiff locally soft brown mottled light grey silty slightly sandy CLAY with rare fine black root remains (BOULDER CLAY) ...becoming very stiff with depth					
4.00-4.45	S		21						
4.00-4.50	B	B13		...becoming fissile and with much blocky mudstone gravel below approximately 9.00m begl					
4.00-4.45	D	SD12							
5.10-5.55	U	U14	70 Blows	Very weak completely weathered grey silty slightly sandy MUDSTONE. Recovered as a sandy					
5.75	D	D15							
6.50	D	D16		Continued on next sheet					
6.60-7.05	S		50/295mm						
6.60-7.00	D	SD17		...becoming fissile and with much blocky mudstone gravel below approximately 9.00m begl					
7.50	D	D18							
8.05-8.50	S		46	Very weak completely weathered grey silty slightly sandy MUDSTONE. Recovered as a sandy					
8.05-8.50	D	SD19							
9.00	D	D20		Continued on next sheet					
9.40-9.85	C		50/175mm						
9.40-9.90	D	D21							

Remarks:

- Borohole slides cased to 6.50m begl.
- Water encountered at approximately 1.80m begl rising to 1.70m begl after 20 minutes.
- Hand-dug pit to 1.20m begl.
- Chiselling from 6.30m to 6.35m begl (0.5hrs) and from 10.85m to 11.20m begl (1hr).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 5.00m begl with a gravel surround and bentonite backfill from 5.00m to 11.20m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: DJH

Checked:

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH2

Date: 09/04/2009

Approved:

Scale: 1:50



The Granary, Church Lane
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BH2

Project No.29002

Sheet 2 of 2

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
11.20-11.65 11.20	C D	D22	50/87mm	clay (MUDSTONE) ----- End of Borehole at 11.20 m		(1.80) 11.20			

Remarks:

1. Borehole sides cased to 6.50m begl.
2. Water encountered at approximately 1.80m begl rising to 1.70m begl after 20 minutes
3. Hand-dug pit to 1.20m begl.
4. Chiselling from 6.30m to 6.35m begl (0.5hrs) and from 10.85m to 11.20m begl (1hr).
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 5.00m begl with a gravel surround and bentonite backfill from 5.00m to 11.20m begl.
6. Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: DJH

Checked:

Field Book Ref: GS09/01

Plant: Dando 2000







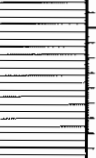
Drawing Ref:

Date: 09/04/2009

Approved:

Scale: 1:50

BH2

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.30-0.50	J/D	B1/B2		Tarmacadam surfacing (MADE GROUND)		0.20			
0.40-0.90	B			Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		(0.70)			
0.90-1.20	B	B3				0.90			
1.20-1.65	S	SD4	9	Stiff yellow-brown to red-brown slightly sandy slightly gravelly clay. Gravel is predominantly fine to medium sub-angular to sub-rounded mudstone (reworked natural) (MADE GROUND)		(2.60)			
1.20-1.65	D								
1.50-2.00	B								
2.00-2.45	S	SD7	11						
2.00-2.45	D								
2.50-2.90	B	B7/B8A							
2.90-3.35	U	U8	30 Blows						
3.35-3.50	D	D9 B10/B11		Very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium sub-angular to sub-rounded mudstone (BOULDER CLAY)		3.50	3.90		
3.50-4.00	B								
3.60-3.80	J/D								
4.10-4.55	S	SD12	23			(1.80)			
4.10-4.50	D								
4.80	D	D13							
5.30-5.75	S	D14	45	Hard red-brown to grey-green sandy gravelly CLAY. Gravel is predominantly sub-angular mudstone (MUDSTONE)		5.30			
5.30-5.75	D								
5.40-5.60	J/D								
6.40	D	D15		Weak red-brown to grey-green highly weathered MUDSTONE (MUDSTONE)		(1.80)			
7.00-7.45	S	SD16	50/275mm						
7.00-7.45	D								
				End of Borehole at 7.50 m		7.50			

Remarks:

- Borehole cased to 3.90m begl.
- Water encountered at 3.40m begl rising to 3.00m begl after 20 minutes
- Hand-dug pit to 1.20m begl.
- Chiselling from 1.80m to 1.90m begl (0.75hr), from 3.60m to 3.80m begl (1hr) and from 5.00m to 5.30m begl (1hr).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 4.90m begl with a gravel surround and bentonite backfill from 4.00m to 7.00m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▽ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01





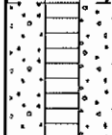

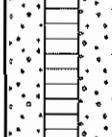

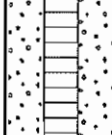
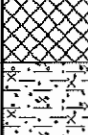
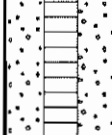

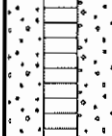

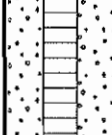

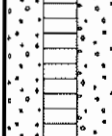

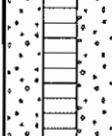
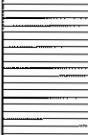
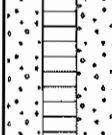
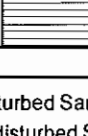

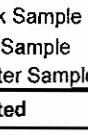

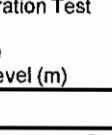
Plant: Dando 2000

Drawing Ref: BH3

Date: 22/04/2009

Approved: *RS*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00	B	B1/B2	2	Concrete slab (MADE GROUND)		0.20			
0.60	D	D3		Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.70			
1.20-1.65	S	B4	2	Loose black ashy sand with gravel of brick, concrete, sandstone, coal, mudstone and quartzite (MADE GROUND)		(0.80)			
1.20-1.70	B					1.50			
1.70-2.00	B	B6	11 Blows	Stiff red-brown locally grey-green mottled clay (reworked natural) (MADE GROUND)		(1.35)			
1.70	D	D5							
2.20-2.65	U	U7	16	Very stiff red-brown sandy silty clay with frequent fine to coarse sub-angular gravel of mudstone (reworked natural) (MADE GROUND)		2.85			
2.85-3.30	S	D8							
2.85	D	SD9/B10	38			(1.45)			
2.85-3.30	D/B								
3.50-3.95	S	B12	40 Blows	Very stiff red-brown slightly silty gravelly CLAY. Gravel is predominantly fine to medium sub-angular to sub-rounded quartzite and mudstone (BOULDER CLAY)		4.30			
3.50-4.00	B								
3.50-3.95	D	SD11	37			(3.40)	6.00		
4.30	D	D13							
4.40-4.85	U	U14	80 Blows	Very weak highly weathered red-brown sandy MUDSTONE. Recovered as fine to medium friable gravel in a sandy matrix (MUDSTONE)		7.70			
4.95	D	D15							
5.50-5.95	S	B17	50/250mm						
5.50-6.00	B								
5.50-5.95	D	SD16							
6.50	D	D18							
7.50-7.95	U	U19							
8.00	D	D20							
8.50	D	D21							
9.00-9.45	C	D22							
9.00-9.50	D								

Continued on next sheet

Remarks:


- Borehole cased to 6.00m begf.
- Water encountered at approximately 1.50m begf rising to 1.40m begf after 20 minutes and at 8.80m begf
- Hand-dug pit to 1.20m begf.
- Chiselling from 13.20m begf to 13.60m begf (1hr). Pushing cobble from 6.90m begf to 7.40m begf.
- Plain pipe installed from ground level to 1.00m begf with a bentonite surround, slotted pipe installed from 1.00m to 10.00m begf with a gravel surround and bentonite backfill from 10.00m to 13.60m begf.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: DJH

Checked: 

Field Book Ref: Plant: Dando 2000

Drawing Ref:




Date: 08/04/2009

Approved: 

GS09/01

Scale: 1:50

BH4

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.50-10.95 10.50-11.00	C D	D23	50/200mm	Very weak highly weathered red-brown sandy MUDSTONE. Recovered as fine to medium friable gravel in a sandy matrix (MUDSTONE) ...becoming grey below approximately 10.50m begl		(5.90)			
11.60	D	D24							
12.00-12.45 12.00-12.50	C D	D25	50/100mm	...becoming less weathered and with thin gypsiferous laminations below approximately 13.00m begl					
13.00	D	D26							
13.20-13.65 13.20-13.60	C D	D27	50/70mm						
13.60-14.05	C		50/55mm						
				End of Borehole at 13.60 m					

Remarks:

1. Borehole cased to 6.00m begl.
2. Water encountered at approximately 1.50m begl rising to 1.40m begl after 20 minutes and at 8.60m begl.
3. Hand-dug pit to 1.20m begl.
4. Chiselling from 13.20m begl to 13.60m begl (1H). Pushing cobble from 6.90m begl to 7.40m begl.
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.00m begl with a gravel surround and bentonite backfill from 10.00m to 13.60m begl.
6. Bung, valve and lockable cover installed.

- Key:**
- | | |
|------------------------|---|
| D = Disturbed Sample | S = Standard Penetration Test (Split Spoon) |
| U = Undisturbed Sample | C = Standard Penetration Test (Cone) |
| B = Bulk Sample | J = Jar Sample |
| W = Water Sample | ▽ = Water Strike (m) |
| | ▼ = Steady Water Level (m) |

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: DJH

Checked: *KS*

Field Book Ref: GS09/01

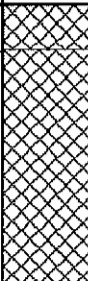
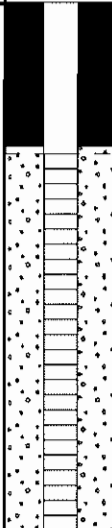


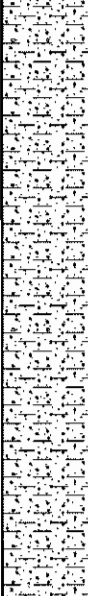

Plant: Dando 2000

Drawing Ref: BH4

Date: 08/04/2009

Approved: *KS*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00 0.50	B D	B1/B2 D3		Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		(0.30) 0.30			
1.20-1.65 1.20-1.70	C B	B4/B5	31	Stiff to very stiff brown very sandy very clayey gravel of sandstone and mudstone fragments (MADE GROUND)					
1.90 2.00-2.45 2.00-2.40 2.10-2.30	D C B D/J	D6 B7	26	Made Ground comprising brown clayey ashy sand and gravel. Gravel is brick and coal with frequent pieces of wood and a slight to moderate bituminous odour (MADE GROUND)		1.90 (0.50)			
2.60-3.05 2.60-3.10	S B	B8	11	Stiff brown very sandy clay with frequent gravel of sandstone and mudstone (MADE GROUND)					
3.10 3.40-3.85	D U	D9 U11	18 Blows	Stiff brown slightly sandy CLAY with occasional gravelly pockets. Gravel is predominantly fine to medium sub-angular to sub-rounded mudstone (BOULDER CLAY)		(0.70) (1.10)			
4.05 4.10-4.55 4.10-4.60 4.10-4.55	D S B D	D12 B14 SD13	32	Very stiff red-brown locally grey-green mottled sandy gravelly CLAY with thin bands of sand. Gravel is predominantly fine to medium sub-angular to sub-rounded mudstone (BOULDER CLAY)					
5.10-5.50 5.60 6.00	U D D	U16 D17 D18	50 Blows			4.20 (4.00)	6.00		
6.50-6.95 6.50-6.95	S D	SD19	24						
8.00-8.45 8.50 9.10	U D D	U20 D21 D22	75 Blows	Weak red-brown highly to completely weathered MUDSTONE (MUDSTONE)			8.20		
9.60-10.05 9.60-10.00	S D	SD23	50/250mm						

Continued on next sheet

Remarks:

- Borehole cased to 6.00m begl.
- Water encountered at approximately 2.80m begl and rising to 2.60m begl after 20 minutes.
- Hand-dug pit to 1.20m begl.
- Chiselling from 2.10m to 2.30m begl (0.5hrs), from 10.20m to 10.35m begl (0.5hrs) and from 13.30m to 13.50m begl (0.5hrs).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 3.50m begl with a gravel surround and bentonite backfill from 3.50m to 15.00m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked:

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref:



Date: 07/04/2009

Approved:

Scale: 1:50

Scale: 1:50

BH5

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
11.00-11.45 11.00-11.35	S D	SD24	50/190mm	Weak red-brown highly to completely weathered MUDSTONE (MUDSTONE)		(6.80)			
12.50-12.95 12.50-13.00 12.50	S B D	B26 SD25	50/200mm						
13.90-14.35 13.90-14.30	C D	D27	50/200mm						
15.00-15.45 15.00-15.45	C D	SD28	50/153mm						
				End of Borehole at 15.00 m		15.00			

Remarks:

1. Borehole cased to 6.00m begl.
2. Water encountered at approximately 2.80m begl and rising to 2.60m begl after 20 minutes.
3. Hand-dug pit to 1.20m begl.
4. Chiselling from 2.10m to 2.30m begl (0.5hrs), from 10.20m to 10.35m begl (0.5hrs) and from 13.30m to 13.50m begl (0.50hrs).
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 3.50m begl with a gravel surround and bentonite backfill from 3.50m to 15.00m begl.
6. Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH5

Date: 07/04/2009

Approved: *ES*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation	
Depth (m)	Type	Sample Ref	SPT Value							
0.50	D/B	D1/B2	3	Grass overlying brown sandy clay with frequent gravel of limestone and occasional fragments of coal (MADE GROUND)		(0.30)				
1.05-1.20	B/J	B3/J		Medium dense ashy gravel of clinker (MADE GROUND)		(0.75)				
1.20-1.65	S		18 Blows	Soft to firm grey to black silty sandy locally very sandy clay with occasional fine to coarse gravel of clinker and a slight hydrocarbon odour (possible diesel) (MADE GROUND)		1.05				
1.20-1.70	B	B5				(0.50)				
1.20-1.65	D	D4				1.70				
1.50-1.70	J					(1.20)				
1.70	D	D6								
1.80-2.25	U	U7								
1.90-2.10	J									
2.45	D	D8	10	Soft to firm brown black mottled silty sandy CLAY with occasional carbonaceous inclusions and unknown odour (possible hydrocarbon) (BOULDER CLAY)		(1.20)				
2.80-3.25	S			Firm to stiff red-brown grey mottled slightly silty sandy CLAY (BOULDER CLAY)		2.90				
2.80-3.30	B	B9	26 Blows	Stiff red-brown slightly silty slightly gravelly sandy CLAY. Gravel is predominantly subrounded fine to medium mudstone (BOULDER CLAY)		(3.30)				
3.70-4.15	U	U10								
4.35	D	D11								
4.60-5.05	S		17			(3.30)				
4.60-5.10	B	B13								
4.60-5.05	D	SD12								
5.60-6.05	U	U14								
6.25	D	D15	16	Medium dense brown silty SAND (running sand conditions) (BOULDER CLAY)		6.20				
6.30-6.75	S									
6.30-6.80	B	B18								
6.30	D	D16								
6.30-6.75	D	SD17								
6.90	D	D19	30	Very stiff becoming hard red-brown sand gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		6.90	7.00			
7.20-7.65	S									
7.20-7.70	B	B21								
7.20-7.65	D	SD20	75 Blows			(3.10)				
8.70-9.15	U	U22								
9.00	D	D23								
9.05-9.50	C									
9.05-9.50	B	B24	50/115mm							

Continued on next sheet

Remarks:

- Borehole cased to 7.00m begl.
- Water encountered at approximately 0.50m begl and rising to 0.45m begl after 20 minutes. Water seepage encountered between 3.60m to 6.00m and at approximately 6.20m begl.
- Hand-dug pit to 1.20m begl.
- Chiselling from 9.05m begl to 9.40m (1hrs), from 9.50m to 9.65m begl (0.5hrs) and from 9.60m to 9.85m begl (0.50hrs).
- Plain pipe installed from ground level to 5.50m begl with a bentonite surround, slotted pipe installed from 5.50m to 10.00m begl with a gravel surround.
- Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample J = Jar Sample W = Water Sample
 = Water Strike (m)
 = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked:

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH6

Date: 01/04/2009

Approved:

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.00-10.48 10.00-10.35	S D	SD25	50/220mm	End of Borehole at 10.35 m		10.00			

Remarks:

1. Borehole cased to 7.00m begl.
2. Water encountered at approximately 0.50m begl and rising to 0.45m begl after 20 minutes. Water seepage encountered between 3.60m to 6.00m and at approximately 6.20m begl.
3. Hand-dug pit to 1.20m begl.
4. Chiselling from 8.05m begl to 8.40m (1hrs), from 9.50m to 9.65m begl (0.5hrs) and from 9.80m to 9.85m begl (0.50hrs).
5. Plain pipe installed from ground level to 5.50m begl with a bentonite surround, slotted pipe installed from 5.50m to 10.00m begl with a gravel surround.
6. Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample ∇ = Water Strike (m)
J = Jar Sample ▼ = Steady Water Level (m)
W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Dando 2000



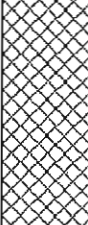

Drawing Ref:

Date: 01/04/2009

Approved: *PT*

Scale: 1:50

BH6

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.70-1.20	B	B1		Tarmacadam surfacing (MADE GROUND)		0.20			
				Loose to medium dense light grey slightly clayey sandy gravel with many cobbles. Gravel is fine to coarse sub-rounded limestone (MADE GROUND)		(0.50) 0.70			
1.20-1.65	U	U2	54 Blows	Stiff red-brown sandy clay with frequent fine to medium sub-angular gravel of mudstone and flint (reworked Natural Strata) (MADE GROUND)		(1.90)	1.80		
1.65-1.80	D	D3							
1.80-2.10	D	D4							
2.10-2.55	S		34						
2.10-2.30	B	B6							
2.10-2.55	D	SD5							
2.30-2.60	B	B7							
2.60-2.80	B	B8							
2.80-3.25	C		50/30mm	Grey locally dark grey ashy sand with frequent fine gravel of brick and coal fragments with localised carbonaceous inclusions (MADE GROUND)		2.60 (0.30)			
2.80-2.90	D	SD9							
End of Borehole at 2.90 m									

Remarks:

- 1 Borehole cased to 1.80m begl.
- 2 No water encountered.
- 3 Hand-dug pit to 1.20m begl.
- 4 Borehole terminated at 2.90m begl due to buried obstruction.
- 5 Rain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 2.90m begl with a gravel surround.
- 6 Bung, valve and lockable cover installed.

- Key:**
- | | |
|------------------------|---|
| D = Disturbed Sample | S = Standard Penetration Test (Split Spoon) |
| U = Undisturbed Sample | C = Standard Penetration Test (Cone) |
| B = Bulk Sample | J = Jar Sample |
| W = Water Sample | ▽ = Water Strike (m) |
| | ▼ = Steady Water Level (m) |

Project: Lostock Works, Cheshire

Client: Viridor Limited


Logged: DJH

Checked: 

Field Book Ref: Dando 3000

Drawing Ref:

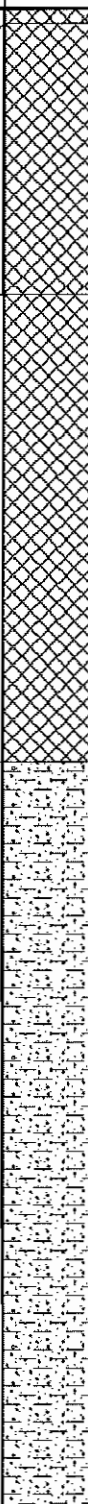
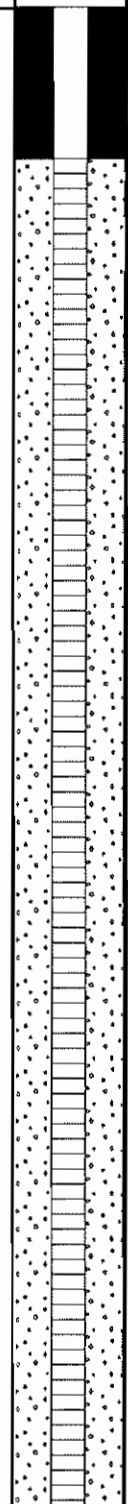
Date: 08/04/2009

Approved: 

GS09/01

Scale: 1:50

BH7

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT N Value						
0.50-1.00	B	B1/B2		Concrete (MADE GROUND)		0.10			
0.75	D	D3		Loose to medium dense red-brown clayey sand with some fine to medium gravel of sandstone (MADE GROUND)					
1.20-1.65	C		22	...with cobbles of sandstone below 1.20m					
1.20-1.70	B	B4/B5							
1.50	D	D6							
1.90	D	D7	22	Medium dense becoming loose brown to black slightly clayey sandy ash with frequent fine to coarse gravel of clinker (MADE GROUND)					
2.00-2.45	S								
2.00-2.50	B	B9/B10							
2.00-2.45	D	SD8							
3.10-3.55	C		25	Stiff becoming very stiff red-brown gravelly very sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)					
3.10-3.60	B	B11/B12							
3.40	D	D13							
4.00-4.45	S		8						
4.00-4.45	B	B15/B16							
4.00-4.45	D	SD14							
5.00	D	D15	21 Blows	Continued on next sheet					
5.00-5.45	U	U16							
5.80-6.25	U	U17	34 Blows						
6.45	D	D18							
7.00	D	D19							
7.50-7.95	S		30						
7.50-8.00	B	B21							
7.50-7.95	D	SD20							
8.40	D	D22							
9.00-9.45	U	U23	80 Blows						
9.50	D	D24		...becoming very stiff below approximately 9.00m begl					

Remarks:

- Borehole cased to 6.00m begl.
- Water encountered at approximately 2.80m begl rising to 2.70m begl after 20 minutes.
- Hand dug pit to 1.20m begl.
- Chiselling from 8.60m begl to 8.75m (0.5hrs), from 11.80m to 11.90m begl (0.75hrs) and from 14.20m to 14.25m begl (0.5hr).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.00m begl with a gravel surround and bentonite backfill from 10.00m to 15.00m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ◀ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS


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Field Book Ref: GS09/01

Plant: Dando 2000

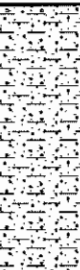


Drawing Ref:

Date: 22/04/2009

Approved: 

Scale: 1:50

BH7B

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.00	D	D25	37	Stiff becoming very stiff red-brown gravelly very sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		11.80			
10.50-10.95 10.50-11.00	C D	D26							
11.80 11.90-12.35 11.90-12.50 11.90-12.50	D C B B	D27 B28 B29	50/125mm	Weak red-brown to grey-green highly to completely weathered MUDSTONE (MUDSTONE)		15.25			
12.90	D	D30							
13.50-13.95 13.50-13.85	S D	SD31	50/162mm	End of Borehole at 15.25 m					
14.50	D	D32							
15.00-15.45 15.00-15.25	S D	SD33	50/125mm						

Remarks:

- 1 Borehole cased to 6.00m begl.
- 2 Water encountered at approximately 2.80m begl rising to 2.70m begl after 20 minutes.
- 3 Hand dug pit to 1.20m begl.
- 4 Chiselling from 6.60m begl to 8.75m (0.5hrs), from 11.80m to 11.90m begl (0.75hrs) and from 14.20m to 14.25m begl (0.5hr).
- 5 Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.00m begl with a gravel surround and bentonite backfill from 10.00m to 15.00m begl.
- 6 Bung, valve and lockable cover installed

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited


Logged: GS

Checked: 

Field Book Ref: Plant: Dando 2000

Drawing Ref:


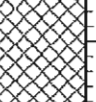
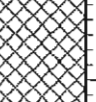

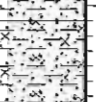
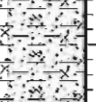

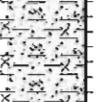
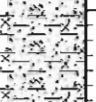
Date: 22/04/2009

Approved: 

GS09/01

Scale: 1:50

BH7B

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00 0.50	B D	B2 D1		Grass overlying brown sandy clay with fragments of fine to coarse subangular gravel of mudstone and rare brick fragments (MADE GROUND)		(0.30) 0.30			
1.20-1.65 1.20-1.65 1.50-1.70 1.60-1.80	S D B J	SD3 B4	36	Very stiff red-brown grey mottled slightly clayey very sandy gravel of mudstone (MADE GROUND)		(1.15)			
2.20 2.40-2.85 2.60-2.90 2.60-2.90 2.70-2.90	D S B D J	D5 B7 SD6	15	Stiff red-brown grey mottled ashy sandy clay with occasional gravel of mudstone and brick fragments with a moderate unidentified hydrocarbon odour (MADE GROUND)		1.45 (1.15)			
3.10 3.30-3.75	D U	D8 U9	33 Blows	Stiff red-brown grey mottled slightly sandy slightly gravelly CLAY. Gravel is predominantly fine to medium subrounded mudstone (BOULDER CLAY)		2.60 (0.50) 3.10			
3.85 4.20 4.25-4.70 4.25-4.70	D D S D	D10 D11 SD12	14	Stiff red-brown slightly silty very gravelly sandy CLAY. Gravel is predominantly fine to medium subrounded mudstone and sandstone (BOULDER CLAY) ...becoming locally very sandy below 4.20m					
5.00-5.45 5.65	U D	U13 D14	50 Blows	...becoming very stiff to hard below 5.00m begl					
6.60-7.05 7.10	U D	U15 D16	75 Blows				7.00		
8.00-8.45 8.00-8.50	C B	B17	44			(10.90)			
9.50-9.95	U	U18	80 Blows						

Continued on next sheet

Remarks:

- Borehole cased to 7.00m begl.
- Water seepage encountered at 4.20m begl to 6.50m begl.
- Hand dug pit to 1.20m begl.
- Chiselling from 7.60m begl to 7.75m and 7.90m begl to 8.00m begl (0.75hrs), from 12.70m to 12.80m begl (0.5hrs) and from 13.40m begl to 13.45m begl (0.5hrs).
- Plain pipe installed from ground level to 3.20m begl with a bentonite surround, slotted pipe installed from 3.20m to 14.00m begl with a gravel surround and bentonite bedfill from 14.00m to 15.00m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS


Checked: 

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH8

Date: 02/04/2009

Approved: 

Scale: 1:50



The Granary, Church Lane
 Thrumpton, Nottingham NG11 0AX
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BH8

Project No.29002

Sheet 2 of 2

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.00	D	D19		Stiff red-brown slightly silty very gravelly sandy CLAY. Gravel is predominantly fine to medium subrounded mudstone and sandstone (BOULDER CLAY)					
11.00-11.45 11.00-11.50 11.00-11.45	S B D	B21 SD20	50/425mm						
12.00	D	D22		Hard red-brown silty sandy gravelly CLAY. Gravel is fine to medium sub-angular mudstone (BOULDER CLAY)		14.00			
12.60-13.05 12.60-13.10	C B	B23	50/435mm						
13.50	U	U24		End of Borehole at 15.40 m		15.40			
14.00-14.45 14.60 15.00-15.45 15.00-15.40 15.40	U D S D D	U25 D26 SD27 SD28	75 Blows 50/235mm						

Remarks:

- Borehole cased to 7.00m begl.
- Water seepage encountered at 4.20m begl to 6.50m begl.
- Hand dug pit to 1.20m begl.
- Chiselling from 7.60m begl to 7.75m and 7.90m begl to 8.00m begl (0.75hrs), from 12.70m to 12.80m begl (0.5hrs) and from 13.40m begl to 13.45m begl (0.5hrs).
- Pitain pipe installed from ground level to 3.20m begl with a bentonite surround, slotted pipe installed from 3.20m to 14.00m begl with a gravel surround and bentonite backfill from 14.00m to 15.00m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *PS*

Field Book Ref: Plant: Dando 2000

Drawing Ref:

Date: 02/04/2009

Approved: *PS*

GS09/01

Scale: 1:50

BH8

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.60-1.10 0.60	B D	B2/B3 D1		Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		(0.40) 0.40			
1.20-1.65 1.20-1.70 1.50	C B D	B5 D4	6	Firm red-brown sandy locally ashy clay with fine to medium gravel of mudstone and sandstone (MADE GROUND)					
2.00-2.45 2.00-2.50 2.00-2.45	S B D	B7/B8 SD6	5			(3.60)			
3.05-3.50 3.10-3.50	S B	B9/B10	7						
3.75 4.00 4.00-4.25	D D D	D11 D12/D13 D14		Loose to medium dense brown wet silty fine grained SAND (BOULDER CLAY)		4.00 (0.65)		▽	
4.65-5.10 4.65-5.20 4.65	S B D	B16 D15	13	Firm to stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)					
6.00 6.00-6.45	D U	D17 U18	35 Blows				6.00	▽	
6.65 7.00	D D	D19 D20							
7.70-8.15 7.70 7.70-8.15	S D D	D21 SD22	44						
8.60	D	D23							
9.00-9.45	U	U24	80 Blows						
9.50	D	D25							

Continued on next sheet

Remarks:

1. Borehole cased to 6.00m begl.
 2. Water encountered at 2.70m begl (no level change after 20 minutes) and 4.00m begl rising to 3.80m begl after 20 minutes.
 3. Hand dug pit to 1.20m begl.
 4. Chiselling from 1.20m begl to 1.25m (0.75hrs) and from 6.80m begl to 6.85m begl (0.5hrs).
 5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 3.50m begl with a gravel surround and bentonite backfill from 3.50m to 15.00m begl.
 6. Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample J = Jar Sample ▽ = Water Strike (m)
 W = Water Sample ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked:

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH9

Date: 16/04/2009

Approved:

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation						
Depth (m)	Type	Sample Ref	SPT Value												
10.10	D	D26		Firm to stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		(10.85)									
10.60-11.05	C		50/250mm												
10.60-11.00	B	B27													
11.70	D	D28													
12.05-12.50	U	U29	86 Blows												
12.55	D	D30													
13.00	D	D31													
13.40-13.85	C		50/290mm												
13.40-13.90	D	D32													
14.50	D	D33													
15.00-15.45	U	U34	73 Blows												
15.50	D	D35													
										End of Borehole at 15.50 m		15.50			

Remarks:

1. Borehole cased to 6.00m begl.
2. Water encountered at 2.70m begl (no level change after 20 minutes) and 4.00m begl rising to 3.80m begl after 20 minutes.
3. Hand dug pit to 1.20m begl.
4. Chiselling from 1.20m begl to 1.25m (0.75hrs) and from 6.80m begl to 6.85m begl (0.5hrs).
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 3.50m begl with a gravel surround and bentonite backfill from 3.50m to 15.00m begl.
6. Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample J = Jar Sample ▽ = Water Strike (m)
W = Water Sample ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *ES*

Field Book Ref: GS09/01

Plant: Dando 2000







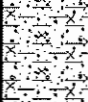


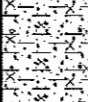




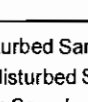
Drawing Ref:

Date: 16/04/2009

Approved: *BS*

Scale: 1:50

BH9

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
				Tarmacadam surfacing (MADE GROUND)		0.10			
1.10	D	D1	6	Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		(1.00)			
1.20-1.65	S								
1.20-1.70	B	B2							
1.50	D	D3							
1.70	D	D4							
1.80-2.25	U	U5	23 Blows	Firm red-brown sandy clay with gravel of quartzite and sandstone (MADE GROUND)		1.10		▽	
2.45	D	D6		Stiff becoming very stiff to hard red-brown slightly gravelly sandy silty CLAY. Gravel is predominantly fine to medium subrounded mudstone (BOULDER CLAY)		(0.60)			
3.00-3.45	S		18			1.70			
3.00-3.45	B	B8							
3.00-3.45	D	SD7							
4.00-4.45	U	U9	29 Blows						
4.65	D	D10							
5.10-5.55	S		28			(7.00)			
5.10-5.55	D	SD11							
6.00	D	D12							
6.50-6.95	U	U13	41 Blows					▽	
7.15	D	D14							
7.50	D	D15							
8.00-8.45	C		34						
8.00-8.50	B	B16							
8.20-9.25	D	SD18							
8.70	D	D17	50/175mm	Weak grey-green highly to completely weathered silty MUDSTONE (MUDSTONE)		8.70		▼	
8.60-9.25	S								
9.50	D	D19							

Continued on next sheet

Remarks:


- Borehole cased to 8.00m begl.
- Water encountered at 1.20m begl (no level change after 20 minutes) and 6.70m begl and rose to 6.30m begl after 20 minutes.
- Hand dug pit to 1.20m begl.
- Chiselling from 7.70m begl to 8.70m (0.75hrs), from 8.80m begl to 8.95m begl (0.5hrs) and from 12.80m begl to 13.10m begl (1hrs).
- Plain pipe installed from ground level to 2.65m begl with a bentonite surround, slotted pipe installed from 2.65m to 8.70m begl with a gravel surround and bentonite backfill from 8.70m to 13.20m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: 

Field Book Ref: Plant: Dando 2000

Drawing Ref:

Date: 14/04/2009

Approved: 

GS09/01

Scale: 1:50

BH10



The Granary, Church Lane
 Thrumpton, Nottingham NG11 0AX
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BH10

Project No.29002

Sheet 2 of 2

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.30-10.75 10.30-10.60	S D	SD20	50/125mm	Weak grey-green highly to completely weathered silty MUDSTONE (MUDSTONE)		(4.50)			
11.00	D	D21							
11.50-11.95 11.50	C D	D22	50/140mm						
12.50	D	D23							
13.10-13.55 13.10	C D	D24	50/70mm						
				End of Borehole at 13.20 m		13.20			

Remarks:

- Borehole cased to 8.00m begl.
- Water encountered at 1.20m begl (no level change after 20 minutes) and 6.70m begl and rose to 6.30m begl after 20 minutes.
- Hand dug pit to 1.20m begl.
- Chiseling from 7.70m begl to 8.70m (0.75hrs), from 8.60m begl to 8.95m begl (0.5hrs) and from 12.60m begl to 13.10m begl (1hrs).
- Plain pipe installed from ground level to 2.65m begl with a bentonite surround, slotted pipe installed from 2.65m to 8.70m begl with a gravel surround and bentonite backfill from 8.70m to 13.20m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked:

Field Book Ref: GS09/01


Plant: Dando 2000

Drawing Ref: BH10

Date: 14/04/2009

Approved:

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00	B	B1/B2	20	Tarmacadam surfacing (MADE GROUND)		0.20	1.80		
				Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.80			
1.20-1.65	S	B4 SD3	50/40mm	Firm to stiff gravelly clay. Gravel is predominantly fine to medium subangular to subrounded mudstone (MADE GROUND)		(1.10)			
1.20-1.80	B								
1.20-1.65	D								
1.80-2.25	S	SD5	50/40mm	...with an obstruction at 1.80m begl		1.90			
1.80-1.90	D								
End of Borehole at 1.90 m									

Remarks:

- 1 Borehole cased to 1.60m begl.
- 2 No water encountered.
- 3 Hand dug pit to 1.20m begl.
- 4 Chiselling from 1.80m begl to 1.90m begl (1hr).
- 5 Borehole terminated at 1.90m due to unidentified obstruction.
- 6 Borehole moved to BH11AWS6.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS


Checked: 

Field Book Ref: GS09/01








Plant: Dando 3000

Drawing Ref: BH11

Date: 16/04/2009

Approved: 

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.10-0.30	J/D			Tarmacadam surfacing (MADE GROUND)		0.05 (0.45)			
0.50-1.00	B	B1/B2		Medium dense grey sandy gravel of limestone (MADE GROUND)		0.50 (0.50)			
1.00-2.00	B	B3		Firm red-brown slightly sandy clay with occasional fine to medium gravel of mudstone sandstone and localised pockets of ash (MADE GROUND)		1.00 (0.80)			
1.10-1.30	J/D								
1.80-2.25	S		12	Firm red-brown sandy clay with fine to medium subangular gravel of mudstone (poor recovery as obstruction advanced with tool) (MADE GROUND)		1.80			
1.80-2.25	D	SD4							
1.90-2.10	J/D								
2.50-3.00	B	B5		Firm to stiff red-brown slightly sandy slightly gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)					
2.50-3.00	B	B6							
2.60-2.80	J/D								
3.10-3.55	U	U7	46 Blows						
3.55	D	DB							
3.70-4.10	B	B9/B10							
4.10-4.55	S		18			(4.50)	4.10		
4.10-4.55	D	SD11							
4.50-5.00	B	B13							
4.60-4.80	J/D								
5.00-5.45	U	U14	41 Blows						
5.45-5.60	D	D15							
5.60-6.20	B	B16/B17							
6.20-6.65	S		33	Very stiff becoming hard red-brown silty sandy gravelly CLAY. Gravel is predominantly fine to medium subangular mudstone (PENARTH & MERCIA MUDSTONE GROUP)		6.30			
6.20-6.65	D	SD18							
6.30-6.80	B	B19/B20							
7.50-7.95	S		50/70mm						
7.50-7.70	D	SD21				(2.80)			
8.00-8.50	B	B22/B23							
8.80-9.25	S		50/75mm						
8.80-8.95	D	SD24							
9.10	D	D25				9.10			
9.20-9.65	S		50/40mm	Weak red-brown grey-green mottled highly to completely weathered MUDSTONE (PENARTH & MERCIA MUDSTONE GROUP)		(0.50)			
9.20-9.30	D	SD26							
9.50-9.95	S		50/30mm						
9.50-9.60	D	SD27				9.60			
End of Borehole at 9.60 m									

Remarks:

1. Borehole cased to 4.10m begl.
2. No water encountered.
3. Hand dug pit to 1.20m begl.
4. Chiselling from 3.90m begl to 4.00m (0.75hrs) end from 5.70m begl to 5.60m begl (0.75hrs).
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 9.60m begl with a gravel surround.
6. Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample ∇ = Water Strike (m)
J = Jar Sample ▼ = Steady Water Level (m)
W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: Plant: Dando 3000

Drawing Ref:



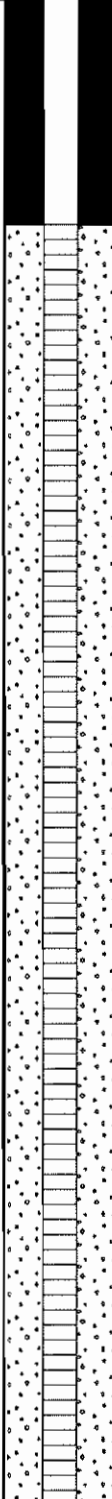













Date: 16/04/2009

Approved: *RS*

GS09/01

Scale: 1:50



BH11A/WS6

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.95	D	D1	21 Blows	Light grey sandy gravel of limestone (MADE GROUND)		0.10	4.50		
1.05	D	D2		Firm brown wet very sandy SILT (BOULDER CLAY)		(0.85)			
1.20-1.80	B	B5/B6		Firm to stiff red-brown mottled grey-green slightly sandy CLAY (BOULDER CLAY)		0.95			
1.65	U	U3	13	...becoming stiff below approximately 3.10m begl		(2.80)	4.50		
1.85	D	D4							
2.20-2.65	S	B8/B9	13	Stiff to very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		3.75	4.50		
2.20-2.70	B								
2.20-2.65	D								
3.10-3.55	U	U10	30 Blows						
3.75	D	D11	12	Stiff to very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		3.75	4.50		
4.00-4.45	S	B12/B13							
4.00-4.50	B								
4.00-4.50	D								
5.10-5.55	U	U15	45 Blows						
5.65	D	D16	25	Stiff to very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		3.75	4.50		
6.50-6.95	S	D18							
6.50-6.95	D								
6.60	D	D17							
7.50	D	D19	33	Stiff to very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		3.75	4.50		
8.00-8.45	S	SD20							
8.00-8.45	D		SD20						
9.20	D	D21	36	Stiff to very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		(9.55)	4.50		
9.50-9.95	S	SD22							
9.50-9.95	D		SD22						

Continued on next sheet

Remarks:

- Borehole cased to 4.50m begl.
- Water encountered at 4.00m begl rising to 3.70m begl after 20 minutes.
- Hand dug pit to 1.20m begl.
- Chiselling from 13.60m begl to 13.75m (0.5hrs), from 14.20m begl to 14.35m begl (0.5hrs) and from 14.90m begl to 15.00m begl (0.5hrs).
- Plain pipe installed from ground level to 1.50m begl with a bentonite surround, slotted pipe installed from 1.50m to 15.00m begl with a gravel surround.
- Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample J = Jar Sample  = Water Strike (m)
 W = Water Sample  = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited


Logged: PDA

Checked: 

Field Book Ref: Plant: Dando 2000

Drawing Ref:

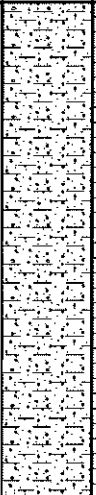
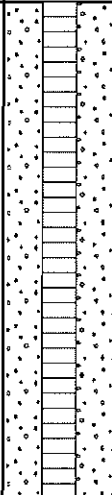

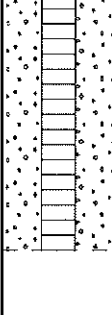
Date: 21/04/2009

Approved: 

GS09/01

Scale: 1:50

BH12

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.10	D	D23		Stiff to very stiff red-brown slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)					
11.00-11.45	S		37						
11.00-12.00	D/B	D25/B26							
11.00-11.45	D	SD24							
12.50-12.95	U	U27	100 Blows						
13.00	D	D28		Very weak to weak red-brown mottled grey-green MUDSTONE (MUDSTONE)		13.30			
13.30-13.75	S		50/162mm						
14.50-14.95	S		50/130mm			(2.15)			
				----- End of Borehole at 15.45 m		15.45			

Remarks:

1. Borehole cased to 4.50m begl.
2. Water encountered at 4.00m begl rising to 3.70m begl after 20 minutes.
3. Hand dug pit to 1.20m begl.
4. Chiselling from 13.60m begl to 13.75m (0.5hrs), from 14.20m begl to 14.35m begl (0.5hrs) and from 14.90m begl to 15.00m begl (0.5hrs).
5. Plain pipe installed from ground level to 1.50m begl with a bentonite surround, slotted pipe installed from 1.50m to 15.00m begl with a gravel surround.
6. Bung, valve and lockable cover installed.

- Key:**
- | | |
|------------------------|---|
| D = Disturbed Sample | S = Standard Penetration Test (Split Spoon) |
| U = Undisturbed Sample | C = Standard Penetration Test (Cone) |
| B = Bulk Sample | J = Jar Sample |
| W = Water Sample | ▽ = Water Strike (m) |
| | ▼ = Steady Water Level (m) |

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: PDA

Checked: *PS*

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH12

Date: 21/04/2009

Approved: *PS*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.40-1.30	B	B3		Tarmacadam surfacing (MADE GROUND)		0.10			
0.90-1.30 0.90	B D	B2 D1		Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		(0.80)		▽	
1.20-1.65 1.20-1.65	S D	SD4	3	Loose black-brown locally clayey sandy ash with gravel of sandstone and mudstone (MADE GROUND)		0.90			
1.90-2.35 1.90-2.30 1.90-2.35 2.30-2.60	S B D B	B6 SD5 B7	2			(1.70)		▽	
2.60 2.60-3.05	D U U	D8 U9	26 Blows	Firm red-brown slightly sandy slightly gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		2.60			
3.15-3.60 3.15	B D	B11/B12 D10							
4.00-4.45 4.00-4.50 4.00	S B D	B14/B15 D13	6						
5.00-5.45	U	U16	29 Blows	...becoming stiff below approximately 5.00m begl		(5.50)			
5.65	D	D17							
6.00	D	SD18							
6.50-6.95 6.50-6.95 6.70-7.00	S D B	SD19 B20	31			6.50			
7.50	D	D21							
8.00-8.45	U	U22	79 Blows						
8.30	D	D23		Weak red-brown to grey-green highly to completely weathered MUDSTONE (MUDSTONE)		8.10			
9.00	D	D24							
9.40-9.85 9.40-9.90 9.40-9.85	S B D	B26/B27 SD25	50/200mm						

Continued on next sheet

Remarks:

1 Borehole cased to 6.50m begl.
2 Water encountered at 0.70m begl and 2.40m begl (no rising level after 20 minutes). Water encountered as seepage between approximately 6.00m and 8.00m begl.
3 Hand dug pit to 1.20m begl.
4 Chiselling from 13.60m begl to 13.95m (0.5hrs) and from 14.10m begl to 14.25m begl (0.5hrs).
5 Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 5.00m begl with a gravel surround and bentonite backfill to 15.25m begl.
6 Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample J = Jar Sample W = Water Sample
▽ = Water Strike (m)
▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked:

Field Book Ref: GS09/01

Plant: Dando 2000

Drawing Ref: BH13

Date: 17/04/2009

Approved:

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.50	D	D28		Weak red-brown to grey-green highly to completely weathered MUDSTONE (MUDSTONE)		(7.15)			
11.00-11.45	S		50/225mm						
11.00-11.45	D	SD29							
12.10	D	D30							
12.50-12.95	S		50/200mm						
12.50-12.90	D	SD31							
13.10	D	D32							
13.80-14.25	C		50/140mm						
13.80-14.20	D	D33							
15.00-15.45	S		50/100mm						
				End of Borehole at 15.25 m		15.25			

Remarks:

- Borehole cased to 6.50m begl.
- Water encountered at 0.70m begl and 2.40m begl (no rising level after 20 minutes). Water encountered as seepage between approximately 6.00m and 8.00m begl.
- Hand dug pit to 1.20m begl.
- Chiselling from 13.80m begl to 13.95m (0.5hrs) and from 14.10m begl to 14.25m begl (0.5hrs).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 5.00m begl with a gravel surround and bentonite backfill to 15.25m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Dando 2000




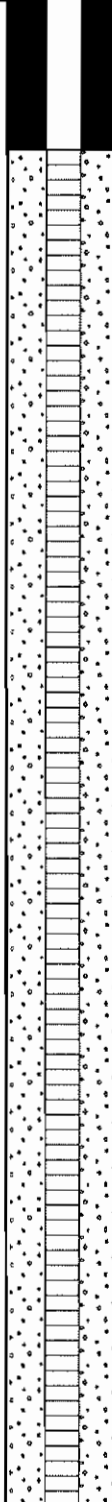











Drawing Ref:

Date: 17/04/2009

Approved: *RS*

Scale: 1:50

BH13

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.80-1.20	B	B1		Tarmacadam surfacing (MADE GROUND)		0.09 (0.41)			
				Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.50		▽	
1.20-1.65	S		8	Loose to medium dense red-brown wet gravel to cobble grade quartzite, mudstone and occasional clinker in a clayey sandy matrix (MADE GROUND)		(1.80)	2.80		
1.20-1.65	D	SD2							
1.50-2.00	B	B3							
2.00-2.45	S		15	Stiff red-brown sandy CLAY with occasional fine to medium sub-angular to sub-rounded quartzite and flint (BOULDER CLAY)		2.30			
2.00-2.45	D	SD4							
3.00	B	B5	33 Blows						
3.00-3.45	U	U6							
3.45-3.60	D	D7							
3.60-4.00	B	B8							
4.00-4.45	S		17						
4.00-4.50	B	B10							
4.00-4.45	D	SD9							
4.50-5.00	B	B11							
5.10-5.55	S		18						
5.10-5.55	D	SD12				(6.30)			
5.80-6.30	B	B13							
6.40-6.85	U	U14	55 Blows						
6.85-7.00	D	D15							
7.50-8.00	B	B16							
8.10-8.55	S		25						
8.10-8.55	D	SD17							
8.60-9.00	B	B18							
9.00-9.45	U	U19	84 Blows	Very weak completely weathered grey silty slightly sandy MUDSTONE (MUDSTONE)		8.60			
9.45-9.60	D	D20							
9.60-10.30	B	B21				(1.85)			

Continued on next sheet

Remarks:

- Borehole sides cased to 2.80m begl.
- Standing water encountered in hand-dug pit at 0.70m begl. Standing water encountered in borehole after weekend at approximately 6.50m begl.
- Hand-dug pit to 1.20m begl.
- Chiselling from 4.60m to 4.70m begl (0.5hrs) and from 6.20m to 6.30m begl.
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.45m begl with a gravel surround.
- Bung, valve and lockable cover installed

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited


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Checked: 

Field Book Ref: Plant: Dando 3000

Drawing Ref:


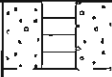
Date: 09/04/2009

Approved: 

GS09/01



Scale: 1:50

BH14

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.30-10.75 10.30-10.45	S D	SD22	50/45mm	Very weak completely weathered grey silty slightly sandy MUDSTONE (MUDSTONE) ...becoming less weathered and friable below approximately 10.20m begl End of Borehole at 10.45 m		10.45			

Remarks:


1. Borehole sides cased to 2.80m begl.
 2. Standing water encountered in hand-dug pit at 0.70m begl. Standing water encountered in borehole after weekend at approximately 6.50m begl.
 3. Hand-dug pit to 1.20m begl.
 4. Chiselling from 4.50m to 4.70m begl (0.5hrs) and from 6.20m to 6.30m begl.
 5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.45m begl with a gravel surround.
 6. Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample J = Jar Sample  = Water Strike (m)
 W = Water Sample  = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: DJH


Checked: 

Field Book Ref: GS09/01

Plant: Dando 3000

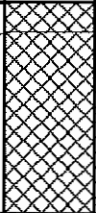
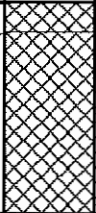











Drawing Ref:

Date: 09/04/2009

Approved: 

Scale: 1:50

BH14

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00	B	B1/B2		Tarmacadam surfacing (MADE GROUND)		0.20			
				Loose to medium dense grey very sandy gravel of limestone (MADE GROUND)		(1.20)			
1.40-1.90	B	B4		Firm to stiff grey sandy CLAY (BOULDER CLAY)		1.40	2.10		
1.40	D	D3				(0.50)			
1.90-2.35	S	SD5	16	Firm to stiff red-brown mottled grey-green slightly gravelly sandy CLAY. Gravel is fine to medium sub-angular to sub-rounded mudstone (BOULDER CLAY)		1.90			
1.90-2.35	D	SD5							
2.50-2.90	B	B6/B7							
2.90-3.35	U	U8	48 Blows						
3.35-3.50	D	D9							
3.50-4.00	B	B10/B11							
4.00-4.45	S	SD12	21						
4.00-4.45	D	SD12							
4.80	D	D13							
5.00-5.45	U	U14	71 Blows						
5.45-5.60	D	D15							
6.20	D	D16							
6.40-6.85	S	SD17	17						
6.40-6.85	D	SD17							
7.50-8.00	B	B18/B19		...becoming hard after 8.00m begl					
8.10-8.55	S	SD20	47						
8.10	D	SD20							
				End of Borehole at 8.55 m		8.55			

Remarks:

- Borehole cased to 2.10m begl.
- Water encountered at 3.00m begl (no level change after 20 minutes).
- PI hand dug to 1.20m begl.
- Chiselling from 1.10m begl to 1.30m (1hrs) and from 6.20m begl to 6.40m begl (1hrs).
- Plain pipe installed from ground level to 2.50m begl with a bentonite surround, slotted pipe installed from 2.50m to 8.10m begl with a gravel surround.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: PDA

Checked: *RS*

Field Book Ref: Plant: Dando 2000

Drawing Ref:



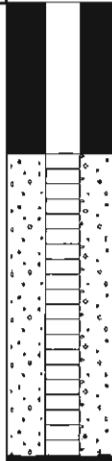


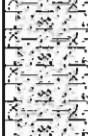

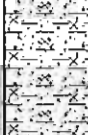

Date: 21/04/2009

Approved: *RS*

GS09/01

Scale: 1:50

BH15

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50	D	D1		Loose to medium dense sandy gravel of limestone (MADE GROUND)		(0.95)			
1.20-1.65	S		5	Comprising slightly clayey sandy ash and clinker (MADE GROUND)		0.95	2.00		
1.20-1.65	D	SD2							
1.50-1.90	B	B4							
1.50	D	D3		Soft to firm brown sandy clay with gravel of coal, clinker, mudstone and brick fragments (MADE GROUND)		(0.40)			
1.90	D	D5	18 Blows	Firm brown sandy CLAY (BOULDER CLAY)		(0.30)			
2.00-2.45	U	U6				2.20			
2.65	D	D7		Firm to stiff red-brown locally grey-green mottled slightly silty slightly gravelly sandy CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)					
3.10-3.55	S		14	...becoming stiff to very stiff below approximately 4.00m begl					
3.10-3.60	B	B9							
3.10-3.55	D	SD8							
4.00-4.45	U	U10	33 Blows						
4.65	D	D11							
5.10-5.55	S		23	...becoming brown below 5.70m begl					
5.10-5.60	B	B13							
5.10-5.55	D	SD12							
6.50-6.95	U	U21	50 Blows						
7.15	D	D14							
7.50	D	D15							
8.00-8.45	S		25	Weak grey silty MUDSTONE. Recovered as fine to coarse subangular gravel (MUDSTONE)					
8.00-8.45	D	SD16							
9.00	D	D17	60 Blows						
9.20-9.65	U	U18				9.00			
9.70	D	D19				(1.30)			

Continued on next sheet

Remarks:


- Borehole cased to 2.00m begl.
- No water encountered.
- Pit hand dug to 1.20m begl.
- Chiselling from 9.70m begl to 10.60m (1hrs).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, sleeved pipe installed from 1.00m to 3.00m begl with a gravel surround and filled with bentonite from 3.00m to 10.00m begl.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: 

Field Book Ref: Plant: Dando 2000

Drawing Ref:

Date: 06/04/2009

Approved: 

GS09/01

Scale: 1:50

BH16



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 Thrumpton, Nottingham NG11 0AX
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BH16

Project No.29002

Sheet 2 of 2

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.00-10.45 10.00	C D	D20	50/60mm	Weak grey silty MUDSTONE. Recovered as fine to coarse subangular gravel (MUDSTONE) End of Borehole at 10.30 m		10.30			

Remarks:

1. Borehole cased to 2.00m begl.
2. No water encountered.
3. Pit hand dug to 1.20m begl.
4. Chiselling from 9.70m begl to 10.00m (1hrs).
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 3.00m begl with a gravel surround and filled with bentonite from 3.00m to 10.00m begl.
6. Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - = Water Strike (m)
 - = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *PS*

Field Book Ref: GS09/01

Plant: Dando 2000

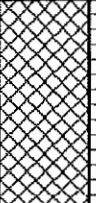
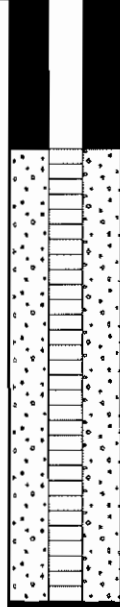



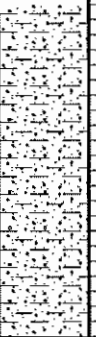

Drawing Ref:

Date: 06/04/2009

Approved: *PS*

Scale: 1:50

BH16

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.50-1.00	B	B1/B2		Loose to medium dense grey sandy gravel of limestone with some cobbles (MADE GROUND)		(1.40)			
1.20-1.65	S		4	Firm grey-brown sandy clay (reworked natural strata) (MADE GROUND)		1.40	2.10		
1.40-1.60	B	B3							
1.70-2.20	B	B5							
1.70	D	D4		Firm grey to brown locally black sandy locally peaty clay with occasional gravel of coal (MADE GROUND)		(0.50)			
2.20-2.65	S		9	Firm to stiff red-brown sandy CLAY with localised black carbonaceous inclusions (BOULDER CLAY)		2.10			
2.20-2.65	D	SD6							
2.50-3.00	B	B7/B8							
3.00-3.45	U	U9	31 Blows			(1.60)			
3.45-3.60	D	D10							
3.90-4.35			50/240mm	No recovery due to advancement of unknown obstruction (NO RECOVERY)		3.70			
						(0.80)			
4.50-5.00	B	B11/B12		Hard grey-green to brown slightly sandy slightly gravelly CLAY. Gravel is predominately fine to medium subangular mudstone. (MUDSTONE)		4.50			
5.10-5.55	S		38						
5.10-5.55	D	SD13				(2.20)			
6.00-6.50	B	B14							
6.60-7.05	S		50/115mm	Weak grey-green silty highly weathered MUDSTONE (MUDSTONE)		6.70			
7.50-7.95	S		50/45mm			(0.90)			
				End of Borehole at 7.60 m		7.60			

Remarks:

- Borehole cased to 2.10m begl.
- No water encountered.
- Pit hand dug to 1.20m begl.
- Chiselling from 3.70m begl to 3.90m (1hrs), from 3.90m to 4.30m begl (1hrs), from 7.50m begl to 7.60m (0.5hrs) and from 7.70m to 7.80m begl (0.5hrs).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 4.00m begl with a gravel surround and filled with bentonite to 7.70m begl.
- Burg, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *PS*

Field Book Ref: GS09/01

Plant: Dando TBC

Drawing Ref: BH17

Date: 23/04/2009

Approved: *ES*

Scale: 1:50



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 email: info@geodyne.co.uk

BH18

Project No.29002

Sheet 1 of 1

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
1.20-1.65	C		50/175mm	Loose to medium dense grey sandy gravel of stone (MADE GROUND)		(1.00)	1.20		
1.40-1.85	C		25/6mm	Firm to stiff red-brown sandy clay (MADE GROUND)		(0.45)			
				----- End of Borehole at 1.45 m		1.45			

Remarks:

1. Borehole cased to 1.20m begl.
2. No water encountered.
3. Pit hand dug to 1.20m begl.
4. Chiselling from 1.40m begl to 1.45m begl (1hrs).
5. Borehole terminated at 1.45m begl due to unknown obstruction (possible concrete).

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - = Water Strike (m)
 - = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *ES*

Field Book Ref: GS09/01



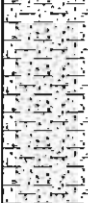
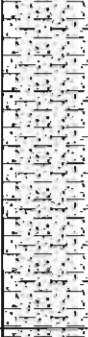
Plant: Dando 2000

Drawing Ref: BH18

Date: 23/04/2009

Approved: *ES*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
1.20-1.65	S		9	Loose to medium dense sandy gravel of limestone (MADE GROUND)		(1.10)			
1.20-1.70	B	B2/B3							
1.20-1.65	D	SD1							
1.50	D	D4							
2.00-2.50	B	B5/B6	11	Loose black sandy gravelly ash with fine to medium clinker (MADE GROUND)		(1.30)			
2.10-2.55	C								
2.50	D	D7	23 Blows	Firm to stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		2.40			
2.80-3.30	B	B10							
2.80-3.25	U	U8							
3.00-3.20	B	B13							
3.30-3.80	B	B11							
3.45	D	D9	12			(3.55)			
3.80-4.25	S	SD12							
3.80-4.25	D	B14							
4.20-4.60	B		31 Blows						
4.60-5.05	U	U15							
5.25	D	D16	36	Very stiff becoming hard red-brown locally grey-green sandy gravelly CLAY. Gravel is predominately fine to medium subangular mudstone (MUDSTONE)		5.95			
5.95	D	D17							
6.00-6.45	S	SD18							
6.00-6.45	D		50						
7.00	D	D19							
7.50-7.95	S	SD20	50						
7.50-7.95	D								
8.50	D	D21	50/125mm						
8.90-9.35	C								
9.50	D	D22	50/85mm						
9.90-10.35	C								

End of Borehole at 10.00 m

Remarks:

- Borehole cased to 8.00m begl.
- Water encountered as seepage between approximately 2.40m and 4.50m begl. Water encountered at 7.00m begl rising to 6.20m begl after 20 minutes and 7.20m begl rising to 6.70m begl after 20 minutes.
- Pit hand dug to 1.20m begl.
- Chiselling from 1.20m begl to 1.75m begl (0.5hrs) and from 9.60m begl to 9.90m begl (1hrs).
- Plain pipe installed from ground level to 6.00m begl with a bentonite surround, slotted pipe installed from 6.00m to 10.00m begl with a gravel surround.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS


Checked: 

Field Book Ref: GS09/01








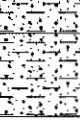

Plant: Dando 2000

Drawing Ref: BH18A

Date: 24/04/2009

Approved: 

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.00-0.40 0.10-0.30	B D/J	B1/B2		Loose grey sandy gravel of limestone (MADE GROUND)		(0.40)			
0.50-0.70	J/D			Wood fragments in a sandy matrix with a strong hydrocarbon odour (possible creosote) (MADE GROUND)		(1.10)			
1.50-2.00 1.60-1.60	B J/D	B3/B4	16	Stiff becoming very stiff red-brown slightly sandy slightly gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone with a slight hydrocarbon odour (possible creosote) (possible reworked in upper horizons) (BOULDER CLAY)		1.50			
2.00-2.45 2.00-2.45	S D	SD4				2.00			
2.50-3.00	B	B6/B7	48 Blows						
3.00-3.20 3.10-3.55	J/D U	U8							
3.55-3.70	D	D9	20			(4.40)			
3.90-4.35 3.90-4.35 4.20-4.40	S D J/D	SD10							
4.50-5.00	B	B11/B12	50/45mm	...becoming hard below approximately 5.00m begl					
5.10-5.55	S								
5.90 6.00-6.45 6.00-6.45	D S D	D13 SD14	43	Very stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular mudstone (MUDSTONE)		5.90 (0.55) 6.45			
				End of Borehole at 6.45 m					

Remarks:

- Borehole cased to 4.20m begl.
- Water encountered at 0.70m begl (no level change after 20 minutes), and at 3.60m begl and rising to 3.60m begl after 20 minutes.
- PI hand dug to 1.20m.
- Chiselling from 1.20m begl to 1.50m begl (1hrs), from 5.10m begl to 5.50m begl (1hrs) and from 5.80m begl to 5.90m begl (0.5hrs).
- Plain pipe installed from ground level to 2.50m begl with a bentonite surround, slotted pipe installed from 2.50m to 5.40m begl with a gravel surround and bentonite backfill from 5.40m to 6.45m begl. Bale bent at 5.40m.
- Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 - ▽ = Water Strike (m)
 - ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *PS*

Field Book Ref: GS09/01



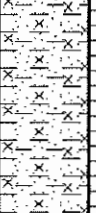

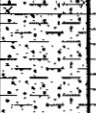

Plant: Dando 3000

Drawing Ref: BH19

Date: 20/04/2009

Approved: *PS*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT 'N' Value						
0.20-0.60	B	B1		Tarmacadam surfacing (MADE GROUND)		0.20			
0.60-1.10	B	B2		Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		(0.40) 0.60			
1.20-1.65 1.20-1.70 1.20-1.65	S B D	B4 SD3	10	Firm to stiff red-brown locally grey mottled silty sandy CLAY (BOULDER CLAY)		(1.80)	1.60		
1.80-2.25 1.80-2.25	S D	SD5	9						
2.50-3.00	B	B6		Firm to stiff red-brown locally grey mottled silty sandy gravelly CLAY. Gravel is predominately fine to medium subangular to subrounded mudstone (BOULDER CLAY)		2.40			
3.20-3.65	U	U7	65 Blows						
3.65-3.80 3.80-4.10	D B	D8 B9							
4.10-4.55 4.10-4.55	S D	SD10	16						
4.60-5.00	B	B11				(4.20)			
5.00-5.45	U	U12	84 Blows						
5.45-5.60 5.60-6.00	D B	D13 B14							
6.00-6.45 6.00-6.45	S D	SD15	26						
6.60-7.00	U	U16	150 Blows			6.60			
7.00-7.15	D	D17		Very stiff red-brown locally grey-green sandy gravelly CLAY. Gravel is predominantly fine to medium subangular mudstone (MUDSTONE)		(1.30)			
7.50-8.00	B	B18/B19							
8.10-8.55 8.10-8.55	S D	SD20	48	Weak red-brown to grey-green highly weathered MUDSTONE (MUDSTONE)		7.90			
8.90-9.40	B	B21/B22							
9.40-9.85 9.40-9.80	S D	SD23	50/275mm			(2.70)			
9.80-10.20	B	B24							

Continued on next sheet

Remarks:

- Borehole cased to 1.60m begl.
- No water encountered.
- Pit hand dug to 1.20m
- Chiselling from 3.00m begl to 3.20m begl (0.75hrs), from 5.80m begl to 6.00m begl (0.5hrs), from 10.20m begl to 10.3m begl (0.5hrs) and from 10.30m begl to 10.50m begl (1hrs).
- Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.60m begl with a gravel surround.
- Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample ∇ = Water Strike (m)
 J = Jar Sample ▼ = Steady Water Level (m)
 W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS


Checked: 

Field Book Ref: GS09/01



Plant: Dando 3000

Drawing Ref: BH20

Date: 14/04/2009



Approved: 

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
10.30-10.75	S		50/80mm	Weak red-brown to grey-green highly weathered MUDSTONE (MUDSTONE)		10.60			
10.30-10.45	D	SD25							
10.50-10.95	S		50/125mm						
10.50-10.60	D	SD26							
				End of Borehole at 10.60 m					

Remarks:

1. Borehole cased to 1.60m begl.
2. No water encountered.
3. Pit hand dug to 1.20m
4. Chiselling from 3.00m begl to 3.20m begl (0.75hrs), from 5.80m begl to 6.00m begl (0.5hrs), from 10.20m begl to 10.3m begl (0.5hrs) and from 10.30m begl to 10.50m begl (1hrs).
5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 10.60m begl with a gravel surround.
6. Bung, valve and lockable cover installed.

- Key:**
- D = Disturbed Sample
 - U = Undisturbed Sample
 - B = Bulk Sample
 - J = Jar Sample
 - W = Water Sample
 - S = Standard Penetration Test (Split Spoon)
 - C = Standard Penetration Test (Cone)
 -  = Water Strike (m)
 -  = Steady Water Level (m)

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Dando 3000




Drawing Ref:

Date: 14/04/2009

Approved: *RS*

Scale: 1:50



BH20


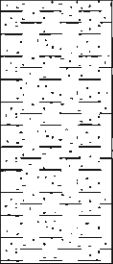
Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose light grey gravelly sand. Gravel is predominantly limestone (MADE GROUND)		0.00-0.30		B			
		0.10-0.30		J/D			
Loose to medium dense black clayey sandy gravelly ash. Gravel is predominantly clinker and concrete locally with brick and a moderate suspected diesel odour (MADE GROUND)		0.30		J/D			
...with a layer of whitish-grey sandy gravel between approximately 0.75m and 0.95m begl		0.40-0.60		B			
...with a visible oil sheen on pooled water at approximately 0.95m begl		0.50-1.00					▽
Firm to stiff red-brown locally mottled light grey slightly sandy CLAY (BOULDER CLAY)		1.70					
		1.90		D/J			
		2.00			SV	76 82	
		2.50					
----- End of Trial Pit at 2.50 m							

Remarks:

1. Trial pit sides slightly unstable in Made Ground.
2. Water seepage encountered below approximately 0.95m begl.
3. Shear Vane test taken on ex-situ soil from 2.00m begl: 76kPa and 82kPa.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire			Client: Viridor Limited	
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP1
Date: 14/04/2009	Approved: 		Scale: 1:20	

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose grey ashy clayey very sandy gravel. Gravel includes brick and clinker (MADE GROUND)		0.20	B	B			▽
Loose to medium dense dark grey and black clayey very sandy ashy gravel. Gravel is predominantly fine to medium angular to sub-angular clinker with occasional coal fragments (MADE GROUND)		0.30		B			
		0.40	D/J				
...with a land drain at approximately 1.60m begl		0.40					
Firm to stiff red-brown locally mottled light grey slightly sandy CLAY (BOULDER CLAY)		1.80		B			
		2.00			D/J		
		2.00					
End of Trial Pit at 2.50 m		2.50					

Remarks:


1. Trial pit sides generally stable.
2. Water seepage encountered around periphery of pit sides. Water running from drain at approximately 1.60m begl.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
Lostock Works, Cheshire

Client:
Viridor Limited

Logged:
 DJH


Checked:


Field Book Ref:
 GS09/01

Plant:
 JCB 3CX


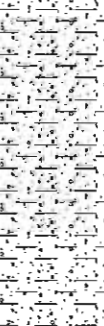
Drawing No.

Date:
 14/04/2009

Approved:


Scale:
 1:20



TP2





Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.01-0.30		J/D			
Soft dark brown sandy clay/silt with localised black mottling and rare fine sub-rounded quartzite gravel and porcelain fragments (MADE GROUND)		0.30					
...with a silty organic odour		0.50 0.50 0.50-0.70		B D/J J/T			
		0.90-1.20		B			
Firm to stiff red-brown locally mottled light grey very sandy CLAY with occasional fine sub-rounded quartzite gravel (BOULDER CLAY)		1.20					
		1.40 1.40		B D/J			
		2.10					▽
----- End of Trial Pit at 2.10 m							

Remarks:

1. Trial pit sides slightly unstable in saturated soils.
2. Water seepage encountered below approximately 1.90m begl.
3. Trial pit terminated at 2.10m begl due to flooding.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire			Client: Viridor Limited	
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP3
Date: 14/04/2009	Approved: 		Scale: 1:20	

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense grey sandy gravel of limestone with occasional brick fragments (MADE GROUND)		0.10		J/D			
Firm locally wet black organic sandy slightly silty clay with occasional clinker gravel inclusions and white crystallite sandy pockets (MADE GROUND)		0.10-0.30					
		0.40		D/J			
		0.40-0.60		J/D			
Medium dense brown very silty fine to coarse SAND locally with light greenish-brown clay pockets (BOULDER CLAY)		1.10		B	D		
		1.30					
		1.30					
Stiff red-brown slightly sandy CLAY with pockets of light brown silty sand (BOULDER CLAY)		1.50					
		1.80		B	SV	100	
		1.80		D/J			
		1.80					
		1.90					
End of Trial Pit at 1.90 m							

Remarks:


1. Trial pit sides generally stable.
2. Water seepage encountered at approximately 1.40m begl.
3. Shear Vane test taken on ex-situ soil from 1.80m begl: 100kPa.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
Lostock Works, Cheshire

Client:
Viridor Limited

Logged:
 DJH


Checked: 

Field Book Ref:
 GS09/01

Plant:
 JCB 3CX




Drawing No.

Date:
 14/04/2009

Approved: 

Scale: 1:20

TP4

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.00-0.40		B			
		0.10-0.30		J/D			
Loose sandy ash with gravel of brick, concrete, clinker and ceramics (MADE GROUND)		0.40-0.50		J/D			
		0.50		J/D			
Firm to stiff brown very sandy ashy clay with occasional gravel of brick, coal, mudstone and sandstone (MADE GROUND) ...with a service drain at approximately 1.00m begl End of Trial Pit at 1.00 m		0.60-0.70		J/D	SV	55	
		0.70		J/D			
		0.70-1.00		B			
		0.80-1.00		J/D			
		0.90				85	
		1.00				90	

Remarks:


1. Trial pit sides generally stable.
2. Water encountered at approximately 1.00m begl.
3. Service drain encountered at 1.00m begl. Trial pit terminated.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
 Lostock Works, Cheshire

Client:
 Viridor Limited

Logged:
 GJS


Checked:


Field Book Ref:
 GS09/01

Plant:
 JCB 3CX



Drawing No.

Date:
 09/04/2009

Approved:


Scale:
 1:20

TP5



Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.00-0.50		B			
		0.10-0.30		J/D			
Moderately compacted red-brown clayey gravelly sand. Gravel is predominantly fine to coarse sub-angular sandstone (REWORKED NATURAL STRATA)		0.25			J/D		
		0.40-0.60					
		0.60					
		1.80					
Dark grey ashy gravelly sand. Gravel is predominantly fine to medium clinker with rare wood pieces (MADE GROUND)		2.00		D/J			
		2.90					▽


Continued on next sheet

Remarks:

1. Trial pit sides slightly unstable in Made Ground.
2. Water seepage encountered at approximately 2.50m begl.
3. Shear Vane values for ex-situ soils from 3.00m begl: 95kPa, 91kPa, and 93kPa.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)



Project: Lostock Works, Cheshire			Client: Viridor Limited		
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP6	
Date: 14/04/2009	Approved: 		Scale: 1:20		


Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Firm to stiff brown mottled light grey and light brown slightly sandy silty CLAY with rare fine gravel inclusions and sandy pockets (BOULDER CLAY)		3.00			SV	95	
		3.30		B		91	
		3.30		D/J		93	
		3.40					
End of Trial Pit at 3.40 m							

Remarks:

1. Trial pit sides slightly unstable in Made Ground.
2. Water seepage encountered at approximately 2.50m begl.
3. Shear Vane values for ex-situ soils from 3.00m begl: 95kPa, 91kPa, and 93kPa.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire			Client: Viridor Limited		
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP6	
Date: 14/04/2009	Approved: 		Scale: 1:20		



Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water	
Reinforced concrete (MADE GROUND)		0.18						
Loose compacted reddish-brown slightly clayey very gravelly sand. Gravel is predominantly fine to coarse limestone (MADE GROUND)		0.30-1.00			B			
		0.30			D/J			
		0.50			D			
Loose to medium dense dark grey slightly ashy gravelly sand. Gravel includes fine to coarse concrete, brick and frequent clinker with occasional concrete cobbles, locally with rare wood fragments and metal wire, slate, roots and timber pieces (MADE GROUND)		1.05			B			
		1.20			D/J			
	1.20							



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Remarks:

1. Trial pit sides generally stable.
2. Water seepage encountered at approximately 3.00m begl.
3. Trial pit terminated due to buried concrete slab.



Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)



Project: Lostock Works, Cheshire			Client: Viridor Limited		
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP8	
Date: 14/04/2009	Approved: 		Scale: 1:20		



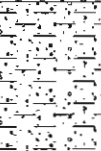
Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Remaining Detail : 2.90m - 2.90m : ...with much gravel of clinker below approximately 2.90m begl ----- End of Trial Pit at 3.10 m		3.00 3.10		D/J			

Remarks:

1. Trial pit sides generally stable.
2. Water seepage encountered at approximately 3.00m begl.
3. Trial pit terminated due to buried concrete slab.



Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample  = Water Strike (m)  = Steady Water Level (m)



Project: Lostock Works, Cheshire		Client: Viridor Limited	
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX
Date: 14/04/2009	Approved: 		Scale: 1:20
			Drawing No. TP8





Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.10-0.30		J/D			
		0.40 0.40-0.60		B J/D			
Firm dark grey-brown sandy slightly silty clay with occasional black carbonaceous inclusions (MADE GROUND)		0.60 0.70		D			
		0.90 0.90		B			
Stiff red-brown locally mottled light grey very sandy CLAY with some fine to medium sub-angular to sub-rounded flint (BOULDER CLAY)		1.20 1.30		D			
		End of Trial Pit at 1.30 m				SV	120 115 91

Remarks:

1. Trial pit sides generally stable. Slightly unstable in Made Ground.
2. No water encountered.
3. Shear vane values for ex-situ soils from 1.30m begl: 120kPa, 115kPa and 91kPa.
4. Trial pit terminated to allow second scan at 1.30m. Scan not undertaken therefore trial pit abandoned.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample  = Water Strike (m)  = Steady Water Level (m)



Project: Lostock Works, Cheshire			Client: Viridor Limited	
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP10
Date: 14/04/2009	Approved: 		Scale: 1:20	


Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.50 0.50		B J/D			
Dark grey slightly silty gravelly sand with inclusions of fine to medium clinker and brick (in the south side of pit). In north side of pit, grey sandy gravel of predominantly fine limestone in a wet matrix (MADE GROUND)		0.80 1.00					
Firm to stiff red-brown very sandy CLAY with some fine to medium sub-angular to sub-rounded flint gravel (BOULDER CLAY)		1.20 1.20		B J/D			
...with a fast water seepage at approximately 1.85m begl in north side of pit		2.00		J/D			▽
----- End of Trial Pit at 2.90 m		2.90					

Remarks:

1. Trial pit sides slightly unstable in granular Made Ground.
2. Water encountered as fast seepage at approximately 1.80m begl.
3. Trial pit terminated at 2.90m begl due to water ingress.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire			Client: Viridor Limited	
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP11
Date: 14/04/2009	Approved: 		Scale: 1:20	



Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone (MADE GROUND)		0.10-0.20		J/D			
...becoming more sandy with depth		0.50-0.90		B			
		0.60-0.90		B			
		0.70-0.90		J/D			
Medium dense red-brown clayey gravelly sand. Gravel is predominantly medium to coarse sub-angular limestone and occasional fine to medium flint (MADE GROUND)		0.75					
Medium dense dark grey-brown ashy clayey very sandy gravel. Gravel includes fine to medium clinker, brick and coal fragments (MADE GROUND)		1.00			B		
		1.00			D/J/V		
	1.00						
Light grey/white locally yellow-brown/beige crystallite gravel in a sandy matrix (MADE GROUND)		1.40					
		1.60		B			
		1.60		D/J			
		2.00					
Firm dark grey-brown becoming brown slightly clayey gravelly sand. Gravel includes black ash and clinker, occasional brick and rare crystallite whole gravel (MADE GROUND)		2.00					
		2.60					
Light grey/white locally yellow-brown/beige crystallite gravel is a slightly clayey sandy matrix (MADE GROUND)		2.60					


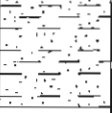
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Remarks:

1. Trial pit sides unstable in near surface region and below approximately 3.70m begl.
2. Water seepage encountered at approximately 4.30m begl.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire			Client: Viridor Limited		
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP12	
Date: 14/04/2009	Approved: 		Scale: 1:20		

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose mixture of fine to coarse brick and clinker gravel in a sandy slightly clayey locally wet matrix (MADE GROUND)		3.00					
...with a large piece of decomposing timber (railway sleeper) at approximately 3.50m begl		3.40		D/J			
...with much large timber pieces below approximately 3.70m begl		4.10					
Firm to stiff red-brown slightly sandy CLAY with occasional fine to medium sub-rounded quartzite gravel (BOULDER CLAY)		4.30		D/J			▽
End of Trial Pit at 4.40 m		4.40					

Remarks:


1. Trial pit sides unstable in near surface region and below approximately 3.70m begl.
2. Water seepage encountered at approximately 4.30m begl.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
Lostock Works, Cheshire

Client:
Viridor Limited

Logged:
 DJH


Checked:


Field Book Ref:
 GS09/01

Plant:
 JCB 3CX


Drawing No.

Date:
 14/04/2009

Approved:


Scale:
 1:20



TP12


Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Loose to medium dense light grey sandy gravel of limestone with a slight unknown odour (MADE GROUND) ...becoming more sandy with depth		0.30-0.50 0.40-0.90		J/D J/D			
Medium dense red-brown slightly clayey gravelly sand. Gravel is predominantly medium to coarse sub-angular limestone and occasional fine to medium flint (MADE GROUND)		0.80 1.10					
Locally compacted dark grey ashy slightly clayey sandy gravel of predominantly fine to coarse brick, clinker and concrete (MADE GROUND) ...brick wall in north of pit to 2.30m begl		1.50 1.50		B D/J			▽
Continued on next sheet							

Remarks:

1. Trial pit sides locally unstable and collapsing in ashy Made Ground.
2. Slight water seepage at base of wall and at 3.40m begl.
3. Shear Vane values for ex-situ soils from 3.20m begl: 51kPa, 47kPa, and 62kPa.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire			Client: Viridor Limited	
Logged: DJH	Checked: 	Field Book Ref: GS09/01	Plant: JCB 3CX	Drawing No. TP13
Date: 14/04/2009	Approved: 		Scale: 1:20	

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Firm to stiff red-brown sandy locally mottled light brown CLAY with occasional fine to medium sub-angular to sub-rounded quartzite (BOULDER CLAY)		3.00					
		3.20		B D/J	SV	51 47 62	▽
		3.20					
		3.20					
End of Trial Pit at 3.50 m		3.50					

Remarks:


1. Trial pit sides locally unstable and collapsing in ashy Made Ground.
2. Slight water seepage at base of wall and at 3.40m begl.
3. Shear Vane values for ex-situ soils from 3.20m begl: 51kPa, 47kPa, and 62kPa.

Key: B = Bulk Sample D = Disturbed Sample W = Water Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
Lostock Works, Cheshire

Client:
Viridor Limited

Logged:
 DJH


Checked:


Field Book Ref:
 GS09/01

Plant:
 JCB 3CX

Drawing No.

Date:
 14/04/2009

Approved:


Scale:
 1:20

TP13

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation	
Depth (m)	Type	Sample Ref	SPT Value							
0.20-0.40	J/D			Concrete (MADE GROUND)		0.10				
				Firm to stiff red-brown sandy friable clay (MADE GROUND)		(1.00)				
1.00-1.45	S		35	Firm to stiff black to brown sandy ashy friable clay with occasional gravel of mudstone, sandstone and brick (MADE GROUND)		1.10				
1.20-1.40	J/D					(1.00)				
2.00-2.45	S		1	Soft becoming stiff brown silty very sandy damp clay (MADE GROUND)		2.10				
2.20-2.40	J/D					(1.40)			▽	
3.00-3.45	S		19	Loose silty clayey wet fine grained sand (MADE GROUND)		3.50				
						(0.50)				
4.00-4.45	S		30	No recovery (possible loose strata) (NO RECOVERY)		4.00				
						(0.50)				
4.60-4.80	J/D			Firm to stiff red-brown sandy gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone (BOULDER CLAY)		4.50				
						(0.50)				
				End of Borehole at 5.00 m		5.00				



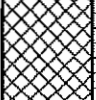



Remarks:
 1. Borehole sides generally stable.
 2. Water encountered at approximately 2.80m begl.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample J = Jar Sample ▽ = Water Strike (m)
 W = Water Sample ▼ = Steady Water Level (m)

Project: Lostock Works, Cheshire **Client:** Viridor Limited



Logged: GJS **Checked:** **Field Book Ref:** GS09/01 **Plant:** Competitor Rig **Drawing Ref:** WS1

Date: 22/04/2009 **Approved:** **Scale:** 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.40-0.60	J/D			Concrete slab (MADE GROUND)		(0.30) 0.30			
0.70-0.90	J/D			Firm to stiff red-brown silty sandy clay with gravel and cobbles of sandstone (MADE GROUND)		(0.30) 0.60			
1.00-1.45	S		27	Stiff sandy clay with fine to medium subangular to subrounded gravel of sandstone and mudstone with black carbonaceous inclusions and with a slight unidentified odour (MADE GROUND)		(0.80)		▽	
1.50-1.70	J/D			Stiff grey-brown sandy clay with a slight unidentified odour (MADE GROUND)		1.40 (0.60)			
2.00-2.45	S		20	Weak light grey silty sandstone with a slight unidentified odour (MADE GROUND)		2.00 2.20			
				Stiff grey-brown sandy clay with a slight unidentified odour (MADE GROUND)		(0.80)			
				No recovery (NO RECOVERY) End of Borehole at 3.00 m		3.00			

Remarks:
 1. Borehole sides generally stable.
 2. Water encountered at approximately 1.30m begl.
 3. Borehole terminated at 3.00m begl due to no recovery possible in loose strata.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample ▽ = Water Strike (m)
 J = Jar Sample ▼ = Steady Water Level (m)
 W = Water Sample

Project: Lostock Works, Cheshire		Client: Viridor Limited	
Logged: GJS	Checked: 	Field Book Ref: GS09/01	Plant: Competitor Rig
Date: 08/04/2009	Approved: 	Scale: 1:50	Drawing Ref: WS2



Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.40-0.60	J/D			Concrete slab (MADE GROUND)		(0.30)			
0.70-0.90	J/D			Compact firm to stiff red-brown silty very sandy clay with occasional gravel of mudstone and quartzite (MADE GROUND)		0.30			
1.00-1.45	S		15	Stiff brown sandy clay with occasional gravel of mudstone (reworked natural) (MADE GROUND)		(0.30)			
2.00-2.45	S		16	Stiff red-brown slightly sandy slightly gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)		(1.40)			
2.00-5.00	B					2.00			
2.10-2.30	J/D								
3.00-3.45	C		22	...becoming gravelly below 3.00m		(3.00)			
4.00-4.45	S		22						
4.10-4.30	J/D								
5.00-5.45	S		24	End of Borehole at 5.00 m		5.00			

Remarks:

1. Borehole sides generally stable.
 2. No water encountered.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample ∇ = Water Strike (m)
 J = Jar Sample ▼ = Steady Water Level (m)
 W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *PS*

Field Book Ref: GS09/01

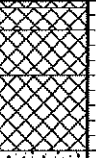
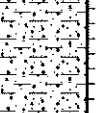

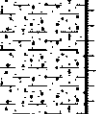
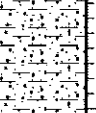
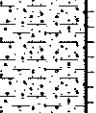
Plant: Competitor Rig

Drawing Ref: WS3

Date: 08/04/2009

Approved: *PS*

Scale: 1:50

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.05-1.00	B			Loose grey sandy gravel of limestone (MADE GROUND)		0.05			
0.05-0.20	J/D					0.20			
0.30-0.50	J/D			Firm to stiff light brown sandy clay (MADE GROUND)		(0.30)			
0.60-0.80	J/D					0.50			
1.00-1.30	J/D			Loose to medium dense black sandy ash with gravel of brick, clinker, mudstone and coal (MADE GROUND)		(0.50)			
1.20-4.50	B					1.00			
				Stiff to firm slightly silty very sandy clay (MADE GROUND)					
2.10-2.30	J/D					Firm to stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)			
3.10-3.30	J/D					(4.00)			
4.10-4.30	J/D								
End of Borehole at 5.00 m						5.00			

Remarks:

1. Borehole sides generally stable.
2. No water encountered.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample ▽ = Water Strike (m)
 J = Jar Sample ▼ = Steady Water Level (m)
 W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Competitor Rig

Drawing Ref:

Date: 21/04/2009

Approved: *RS*

Scale: 1:50

WS4



Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.10-0.80 0.20-0.40	B J/D			Tarmacadam surfacing (MADE GROUND)		0.10			
				Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		(0.90)			
1.00-1.45 1.10-1.30	S J/D		20	Stiff red-brown locally ashy sandy to very sandy clay with frequent gravel of quartzite, mudstone and occasional clinker (MADE GROUND)		1.00 (0.80)			
				----- End of Borehole at 1.80 m		1.80			

Remarks:

1. Borehole sides generally stable.
2. No water encountered.
3. Borehole terminated at 1.80m beg' due to unknown obstruction.

- Key:**
- | | |
|------------------------|---|
| D = Disturbed Sample | S = Standard Penetration Test (Split Spoon) |
| U = Undisturbed Sample | C = Standard Penetration Test (Cone) |
| B = Bulk Sample | ▽ = Water Strike (m) |
| J = Jar Sample | ▼ = Steady Water Level (m) |
| W = Water Sample | |

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Competitor Rig

Drawing Ref:

Date: 21/04/2009

Approved: *RS*

Scale: 1:50

WS7

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation	
Depth (m)	Type	Sample Ref	SPT Value							
0.10-0.80	B			Tarmacadam surfacing (MADE GROUND)		0.10				
0.10-0.30	J/D							(0.40)		
0.60-0.80	J/D			Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		0.50				
								(0.50)		
1.00-1.45	S		5	Loose to medium dense sandy ash with gravel of brick, clinker and mudstone (MADE GROUND)		1.00				
1.10-1.30	J/D								(1.00)	
2.00-2.45	S		13	Firm grey-brown very sandy clay with occasional brick fragments and occasional carbonaceous inclusions (MADE GROUND)		2.00				
2.10-3.50	B									
2.10-2.30	J/D									
3.00-3.45	S		24	Stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)						
3.10-3.30	J/D								(3.00)	
4.00-4.45	S		25							
4.10-4.30	J/D									▽
5.00-5.45	S		31	End of Borehole at 5.00 m		5.00				

Remarks:

1. Borehole sides generally stable.
2. Water encountered at approximately 4.00m bgl.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample ▽ = Water Strike (m)
J = Jar Sample ▼ = Steady Water Level (m)
W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Competitor Rig


Drawing Ref:

Date: 21/04/2009

Approved: *RS*

Scale: 1:50

WS8

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.00-0.70	B			Loose grey sandy gravel of limestone (MADE GROUND) Firm red-brown sandy clay with pockets of ash (MADE GROUND) ----- End of Borehole at 1.20 m		0.20			
0.00-0.20	J/D					(1.00)		▽	
0.30-0.50	J/D					1.20			

Remarks:

1. Borehole sides generally stable.
2. Water encountered at approximately 0.50m bgl.
3. Borehole terminated at 1.20m due to unknown obstruction.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample ▽ = Water Strike (m)
 J = Jar Sample ▼ = Steady Water Level (m)
 W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Competitor Rig

Drawing Ref:

Date: 21/04/2009

Approved: *RS*

Scale: 1:50

WS9

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.20-0.40	J/D			Tarmacadam surfacing (MADE GROUND)		0.10 (0.40)			
0.60-0.80	J/D			Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		0.50 (0.50)			
1.00-1.45 1.10-1.30	S J/D		13	Firm to stiff red-brown sandy gravelly clay (reworked natural strata) (MADE GROUND)		1.00			
2.00-2.45 2.10-3.50 2.10-2.20	S B J/D		21	Stiff red-brown sandy gravelly CLAY. Gravel is predominantly fine to medium subangular to subrounded mudstone (BOULDER CLAY)					
3.00-3.45 3.10-3.30	S J/D		24	...becoming silty below 3.00m		(4.00)			
4.00-4.45 4.10-4.30	S J/D		30						
5.00-5.45	S		37	End of Borehole at 5.00 m		5.00			

Remarks:

1 Borehole sides generally stable.
 2 No water encountered.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
 U = Undisturbed Sample C = Standard Penetration Test (Cone)
 B = Bulk Sample ▽ = Water Strike (m)
 J = Jar Sample ▼ = Steady Water Level (m)
 W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *PS*

Field Book Ref: GS09/01

Plant: Competitor Rig




Drawing Ref:

Date: 21/04/2009

Approved: *PS*



Scale: 1:50

WS10

Samples and Tests				Description of Strata	Legend	Depth & Thickness (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.20-0.40	J/D			Loose to medium dense grey sandy gravel of limestone (MADE GROUND)		(0.50)			
1.00-1.45	S		12	Stiff red-brown sandy clay with occasional fine to medium subangular to subrounded gravel of mudstone (MADE GROUND)		0.50 (1.50)			
				----- End of Borehole at 2.00 m		2.00			

Remarks:

1 Borehole sides generally stable.
2 Water encountered at approximately 0.80m begl.
3 Borehole terminated at 2.00m begl due to unidentified obstruction.

Key: D = Disturbed Sample S = Standard Penetration Test (Split Spoon)
U = Undisturbed Sample C = Standard Penetration Test (Cone)
B = Bulk Sample  = Water Strike (m)
J = Jar Sample  = Steady Water Level (m)
W = Water Sample

Project: Lostock Works, Cheshire

Client: Viridor Limited

Logged: GJS

Checked: *RS*

Field Book Ref: GS09/01

Plant: Competitor Rig

Drawing Ref:

Date: 22/04/2009

Approved: *RS*

Scale: 1:50

WS11

Phase II Factual Report

Contract: Lostock Works, Cheshire

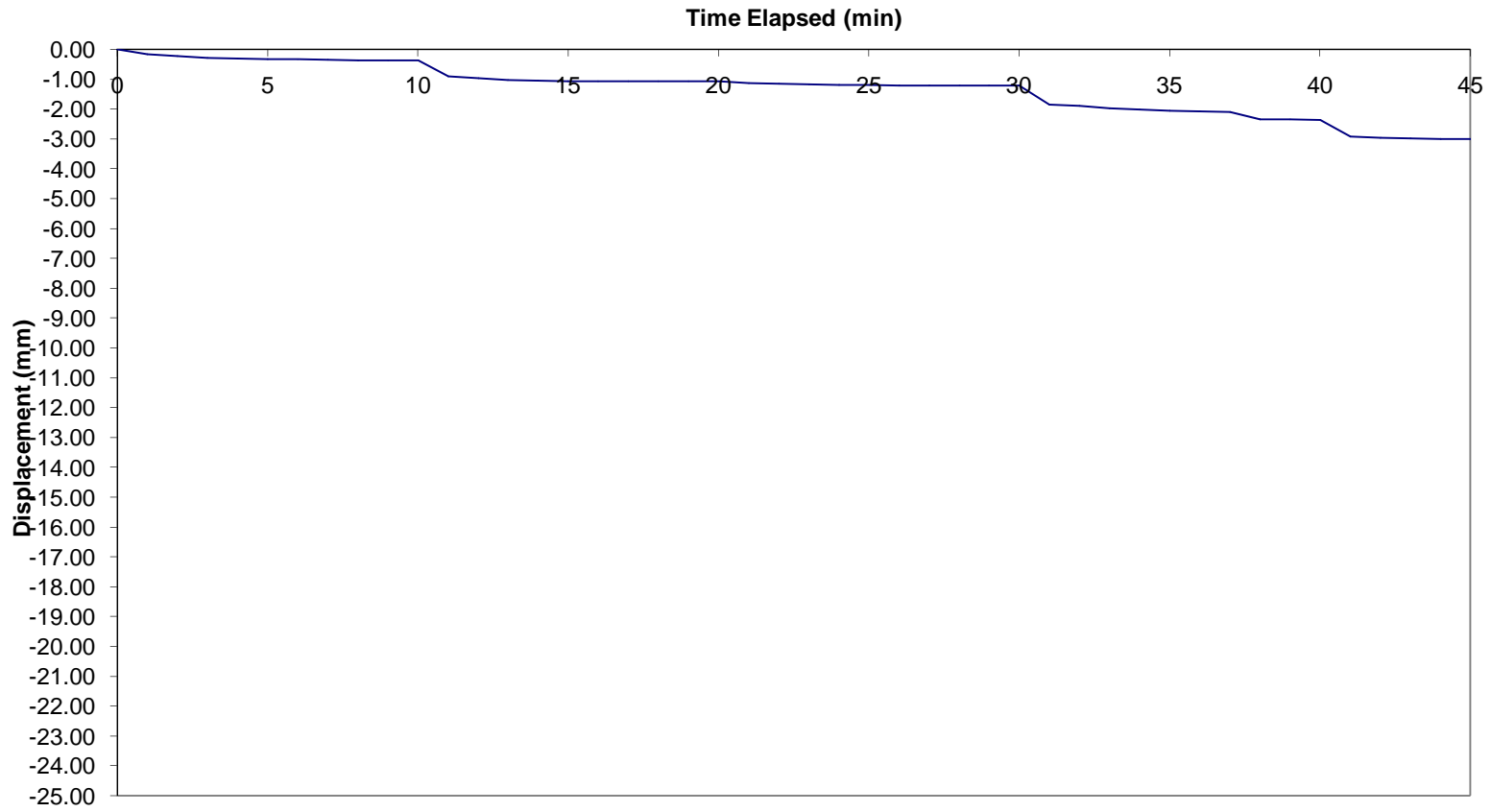
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Appendix D

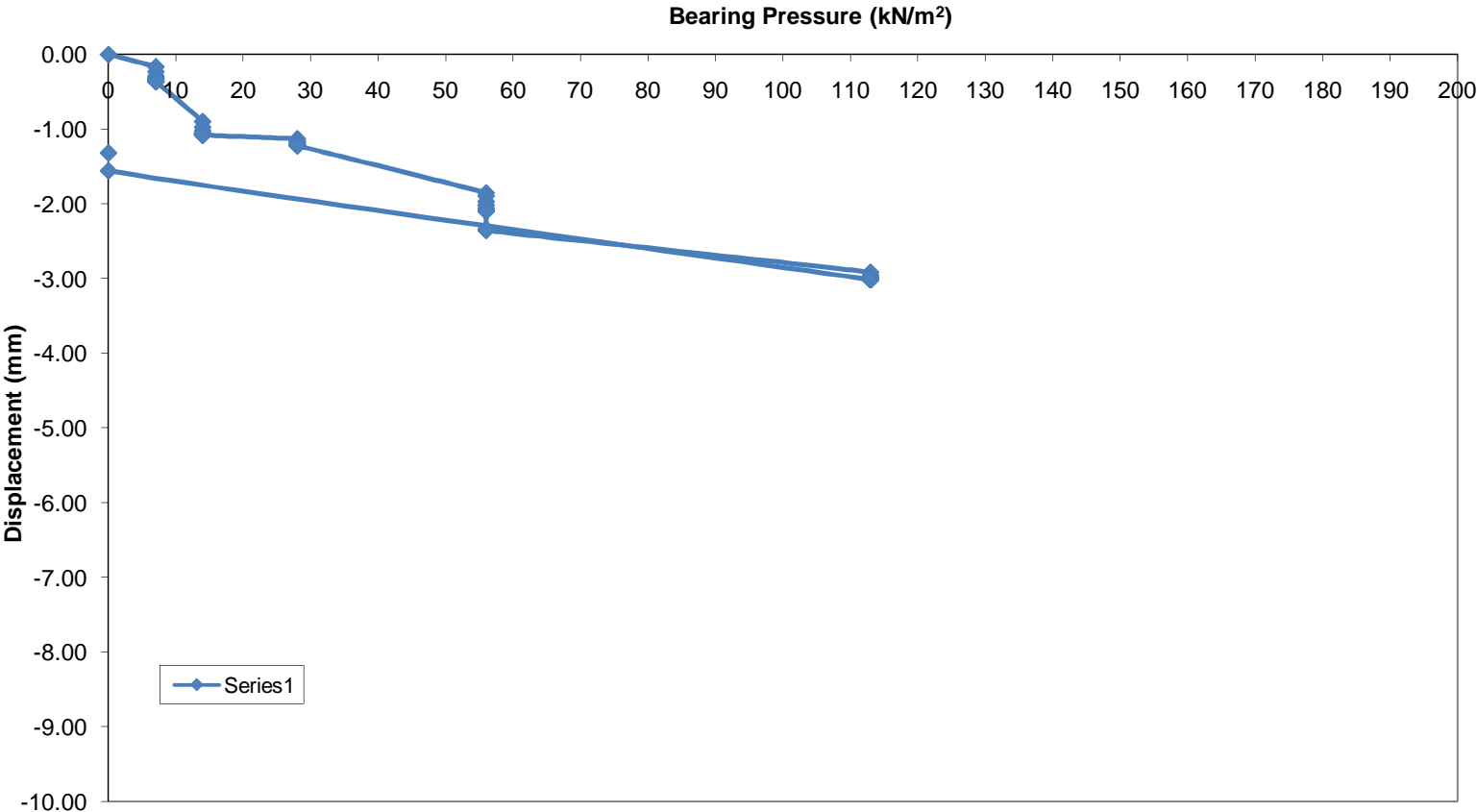
Plate Bearing Test Results

Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	7	0.19	0.24	0.08	-0.17	0.00
2	7	0.24	0.38	0.08	-0.23	0.23
3	7	0.32	0.43	0.11	-0.29	0.05
4	7	0.32	0.46	0.16	-0.32	0.03
5	7	0.32	0.49	0.19	-0.33	0.02
6	7	0.32	0.49	0.19	-0.33	0.00
7	7	0.32	0.51	0.19	-0.34	0.01
8	7	0.41	0.51	0.19	-0.37	0.03
9	7	0.41	0.51	0.19	-0.37	0.00
10	7	0.41	0.51	0.19	-0.37	0.00
11	14	0.89	1.19	0.62	-0.90	0.53
12	14	0.89	1.24	0.78	-0.97	0.07
13	14	0.89	1.27	0.92	-1.03	0.05
14	14	0.92	1.30	0.95	-1.05	0.03
15	14	0.92	1.32	0.95	-1.06	0.01
16	14	0.92	1.35	0.95	-1.07	0.01
17	14	0.95	1.35	0.95	-1.08	0.01
18	14	0.95	1.35	0.95	-1.08	0.00
19	14	0.95	1.35	0.95	-1.08	0.00
20	14	0.95	1.35	0.95	-1.08	0.00
21	28	1.19	1.27	0.94	-1.13	0.05
22	28	1.20	1.31	0.95	-1.15	0.02
23	28	1.21	1.33	0.97	-1.17	0.02
24	28	1.22	1.34	0.98	-1.18	0.01
25	28	1.24	1.34	1.01	-1.20	0.01
26	28	1.27	1.34	1.02	-1.21	0.02
27	28	1.28	1.34	1.03	-1.22	0.01
28	28	1.30	1.34	1.03	-1.22	0.00
29	28	1.30	1.34	1.03	-1.22	0.00
30	28	1.30	1.34	1.03	-1.22	0.00
31	56	1.87	2.15	1.55	-1.86	0.63
32	56	1.91	2.21	1.58	-1.90	0.04
33	56	2.02	2.24	1.64	-1.97	0.07
34	56	2.09	2.27	1.69	-2.02	0.05
35	56	2.11	2.33	1.74	-2.06	0.04
36	56	2.14	2.36	1.76	-2.09	0.03
37	56	2.14	2.38	1.79	-2.10	0.01
38	56	2.87	2.38	1.79	-2.34	0.24
39	56	2.89	2.38	1.79	-2.35	0.01
40	56	2.92	2.38	1.79	-2.36	0.01
41	113	2.94	3.35	2.47	-2.92	0.56
42	113	2.96	3.41	2.51	-2.96	0.04

Time vs Displacement BH19

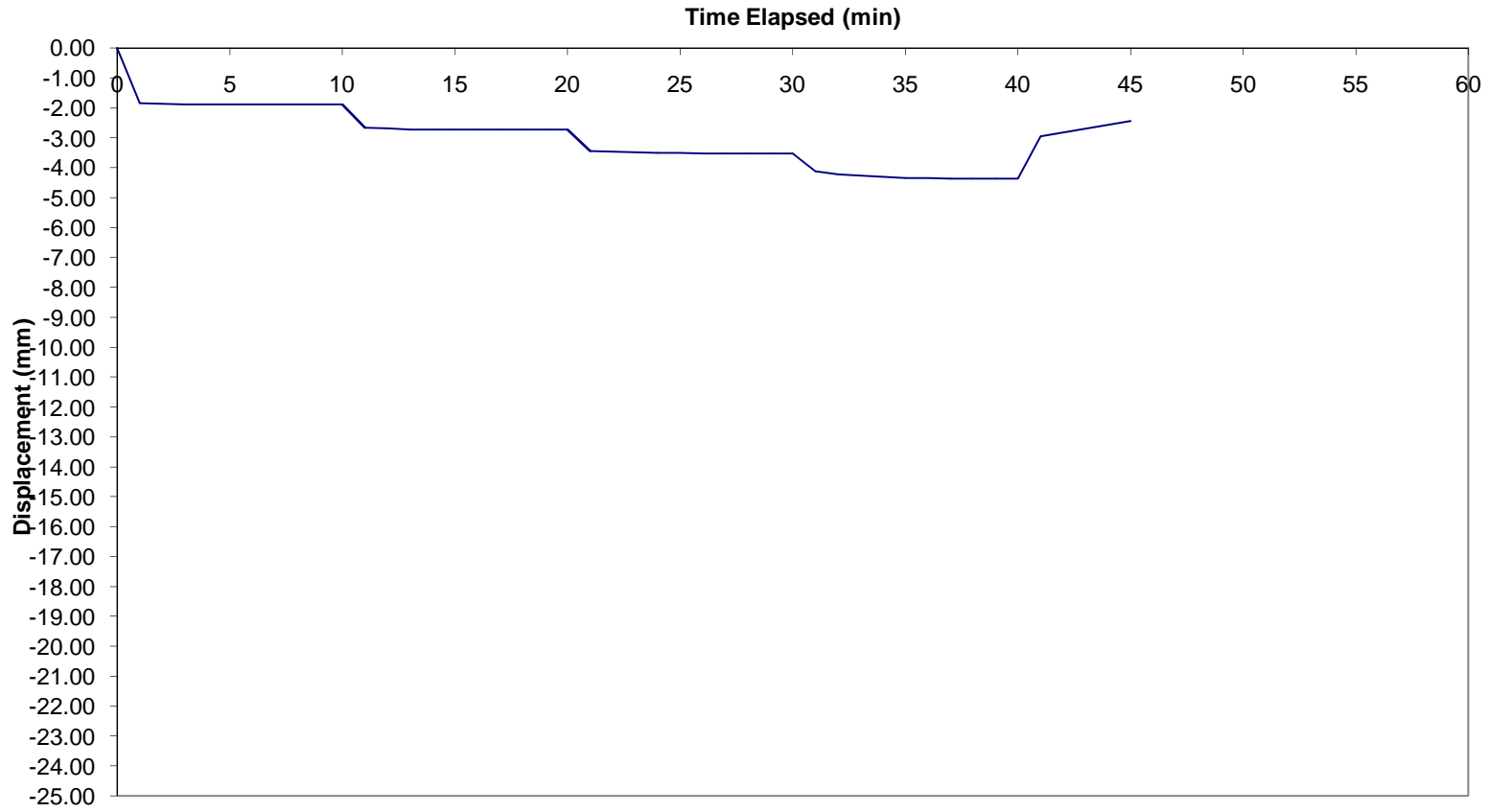


Load vs Settlement Lostock BH19

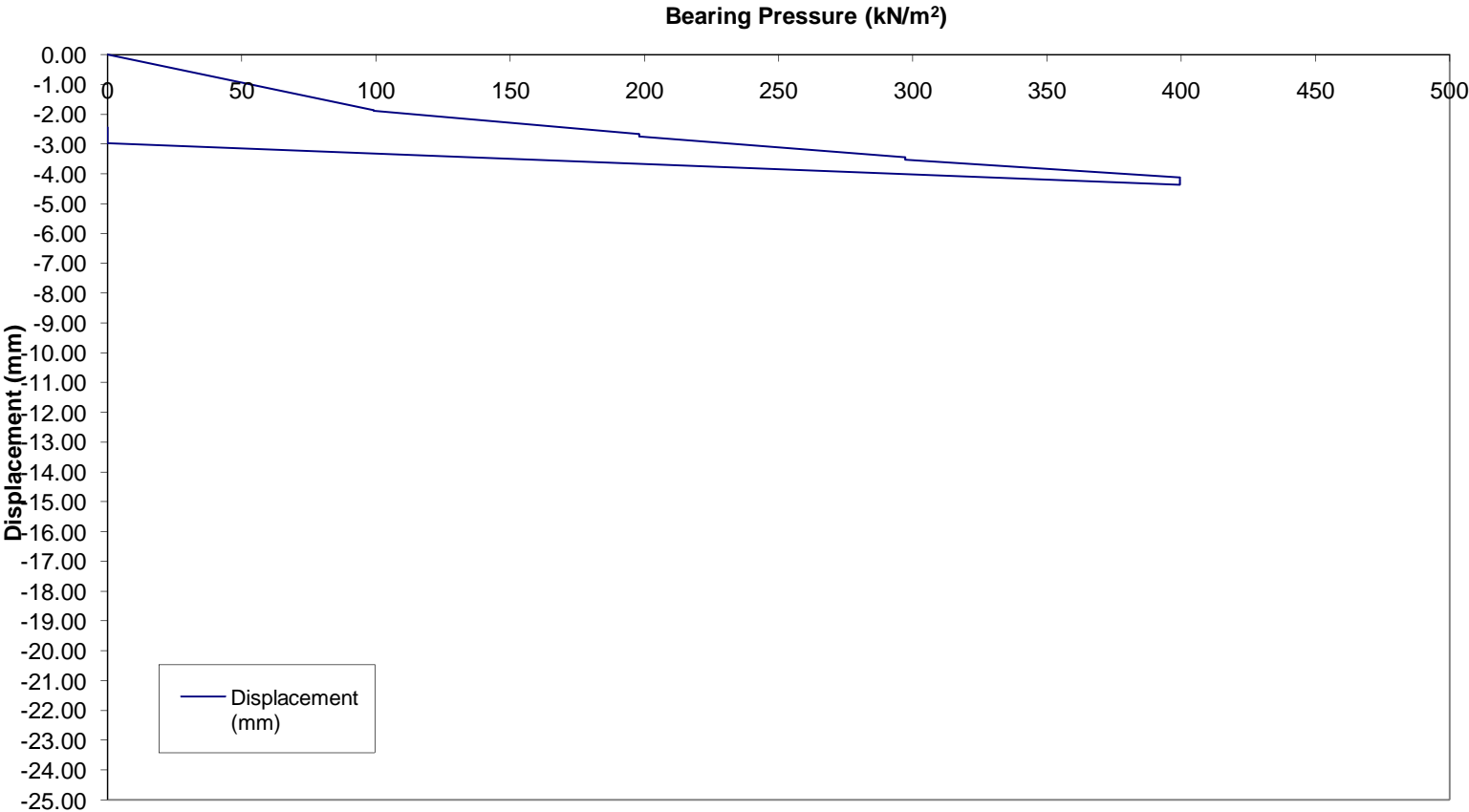


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	99	2.51	2.11	0.94	-1.85	0.00
2	99	2.53	2.12	0.95	-1.87	1.87
3	99	2.54	2.13	0.96	-1.88	0.01
4	99	2.54	2.14	0.96	-1.88	0.00
5	99	2.54	2.15	0.96	-1.88	0.00
6	99	2.54	2.15	0.96	-1.88	0.00
7	99	2.54	2.15	0.96	-1.88	0.00
8	99	2.54	2.15	0.96	-1.88	0.00
9	99	2.54	2.15	0.96	-1.88	0.00
10	99	2.54	2.15	0.96	-1.88	0.00
11	198	3.65	2.91	1.43	-2.66	0.78
12	198	3.71	2.92	1.45	-2.69	0.03
13	198	3.75	2.92	1.48	-2.72	0.02
14	198	3.77	2.93	1.49	-2.73	0.01
15	198	3.78	2.93	1.49	-2.73	0.00
16	198	3.78	2.93	1.49	-2.73	0.00
17	198	3.78	2.93	1.49	-2.73	0.00
18	198	3.78	2.93	1.49	-2.73	0.00
19	198	3.78	2.93	1.49	-2.73	0.00
20	198	3.78	2.93	1.49	-2.73	0.00
21	297	4.77	3.56	2.01	-3.45	0.71
22	297	4.78	3.61	2.01	-3.47	0.02
23	297	4.79	3.64	2.02	-3.48	0.02
24	297	4.82	3.65	2.02	-3.50	0.01
25	297	4.85	3.65	2.02	-3.51	0.01
26	297	4.87	3.66	2.02	-3.52	0.01
27	297	4.89	3.66	2.02	-3.52	0.01
28	297	4.91	3.66	2.02	-3.53	0.01
29	297	4.91	3.66	2.02	-3.53	0.00
30	297	4.91	3.66	2.02	-3.53	0.00
31	400	5.93	4.06	2.38	-4.12	0.59
32	400	6.16	4.09	2.43	-4.23	0.10
33	400	6.23	4.12	2.45	-4.27	0.04
34	400	6.29	4.16	2.48	-4.31	0.04
35	400	6.34	4.18	2.49	-4.34	0.03
36	400	6.35	4.19	2.52	-4.35	0.02
37	400	6.36	4.19	2.52	-4.36	0.00
38	400	6.37	4.19	2.52	-4.36	0.00
39	400	6.37	4.19	2.52	-4.36	0.00
40	400	6.37	4.19	2.52	-4.36	0.00
41	0	4.15	3.02	1.71	-2.96	-1.40
45	0	3.65	2.33	1.33	-2.44	-0.52

Time vs Displacement TP1

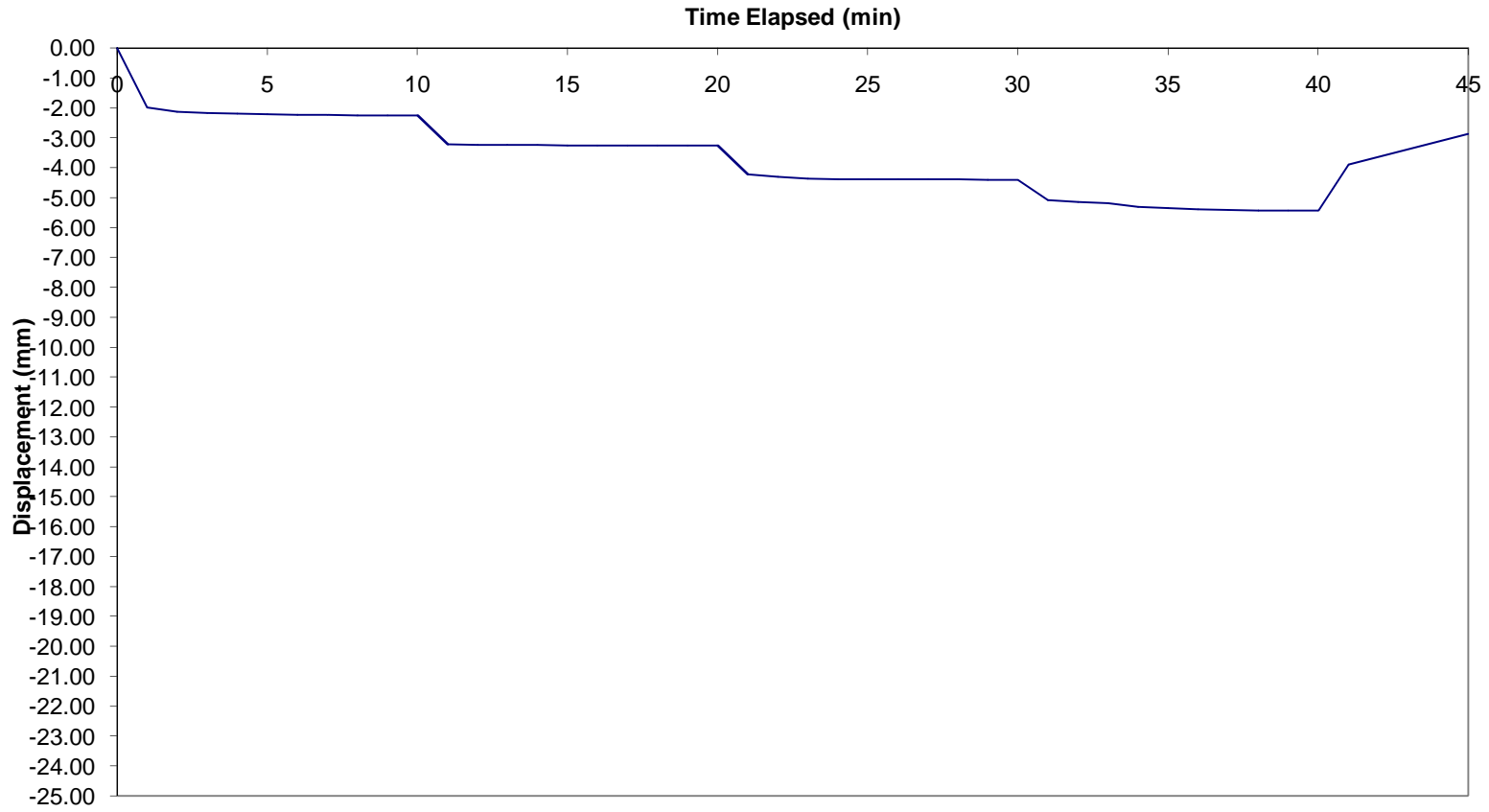


Load vs Settlement Lostock TP1

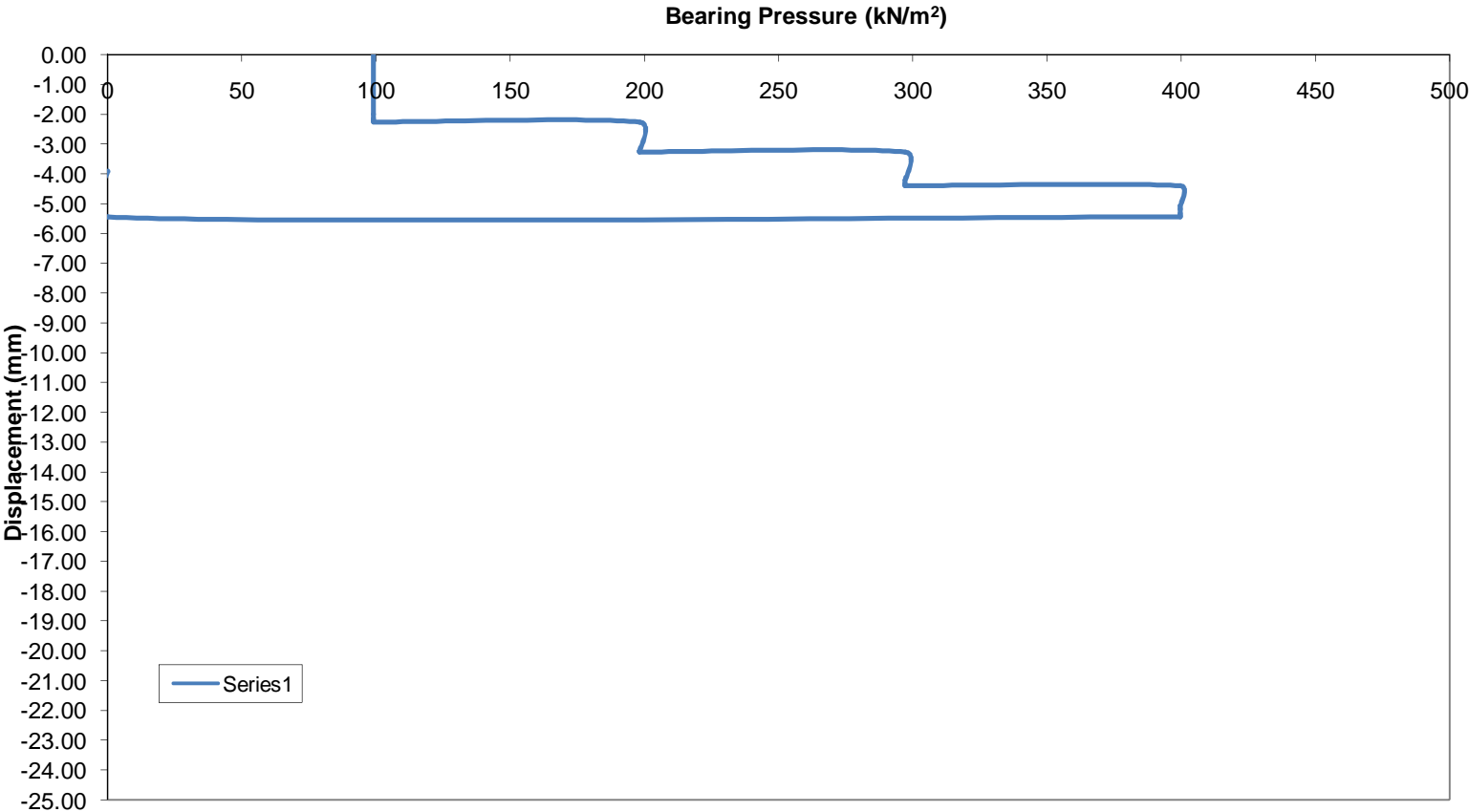


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	99	2.28	1.46	2.22	-1.99	0.00
2	99	2.32	1.47	2.60	-2.13	2.13
3	99	2.34	1.48	2.70	-2.17	0.04
4	99	2.35	1.48	2.75	-2.19	0.02
5	99	2.36	1.48	2.79	-2.21	0.02
6	99	2.36	1.48	2.84	-2.23	0.02
7	99	2.36	1.48	2.88	-2.24	0.01
8	99	2.36	1.48	2.90	-2.25	0.01
9	99	2.36	1.48	2.91	-2.25	0.00
10	99	2.36	1.48	2.92	-2.25	0.00
11	198	3.63	2.37	3.68	-3.23	0.97
12	198	3.63	2.39	3.68	-3.23	0.01
13	198	3.63	2.42	3.68	-3.24	0.01
14	198	3.56	2.45	3.68	-3.23	-0.01
15	198	3.63	2.47	3.68	-3.26	0.03
16	198	3.63	2.47	3.68	-3.26	0.00
17	198	3.63	2.47	3.68	-3.26	0.00
18	198	3.63	2.47	3.68	-3.26	0.00
19	198	3.63	2.47	3.68	-3.26	0.00
20	198	3.63	2.47	3.68	-3.26	0.00
21	297	4.73	3.14	4.78	-4.22	0.96
22	297	4.89	3.22	4.80	-4.30	0.09
23	297	4.91	3.23	4.93	-4.36	0.05
24	297	4.97	3.23	4.93	-4.38	0.02
25	297	4.98	3.23	4.93	-4.38	0.00
26	297	4.98	3.23	4.93	-4.38	0.00
27	297	4.98	3.27	4.93	-4.39	0.01
28	297	4.98	3.27	4.93	-4.39	0.00
29	297	4.98	3.27	4.94	-4.40	0.00
30	297	4.98	3.27	4.94	-4.40	0.00
31	400	5.75	3.82	5.66	-5.08	0.68
32	400	5.89	3.87	5.69	-5.15	0.07
33	400	5.95	3.89	5.72	-5.19	0.04
34	400	6.01	3.93	5.99	-5.31	0.12
35	400	6.09	3.95	6.03	-5.36	0.05
36	400	6.11	3.98	6.09	-5.39	0.04
37	400	6.13	4.00	6.11	-5.41	0.02
38	400	6.15	4.01	6.12	-5.43	0.01
39	400	6.15	4.02	6.12	-5.43	0.00
40	400	6.15	4.03	6.12	-5.43	0.00
41	0	4.28	2.41	4.99	-3.89	-1.54
45	0	3.18	1.56	3.89	-2.88	-1.02

Time vs Displacement Lostock TP2

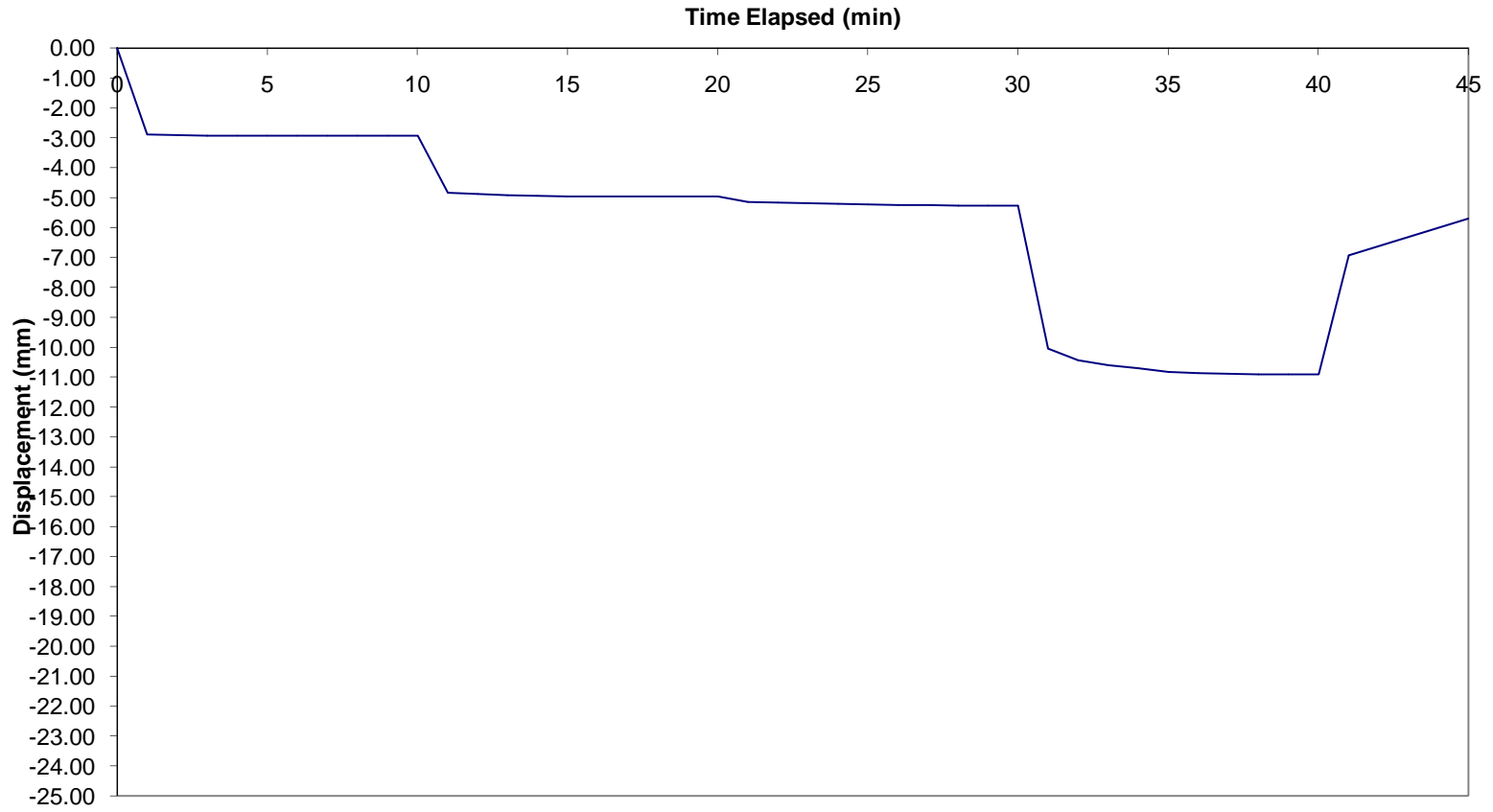


Load vs Settlement Lostock TP2

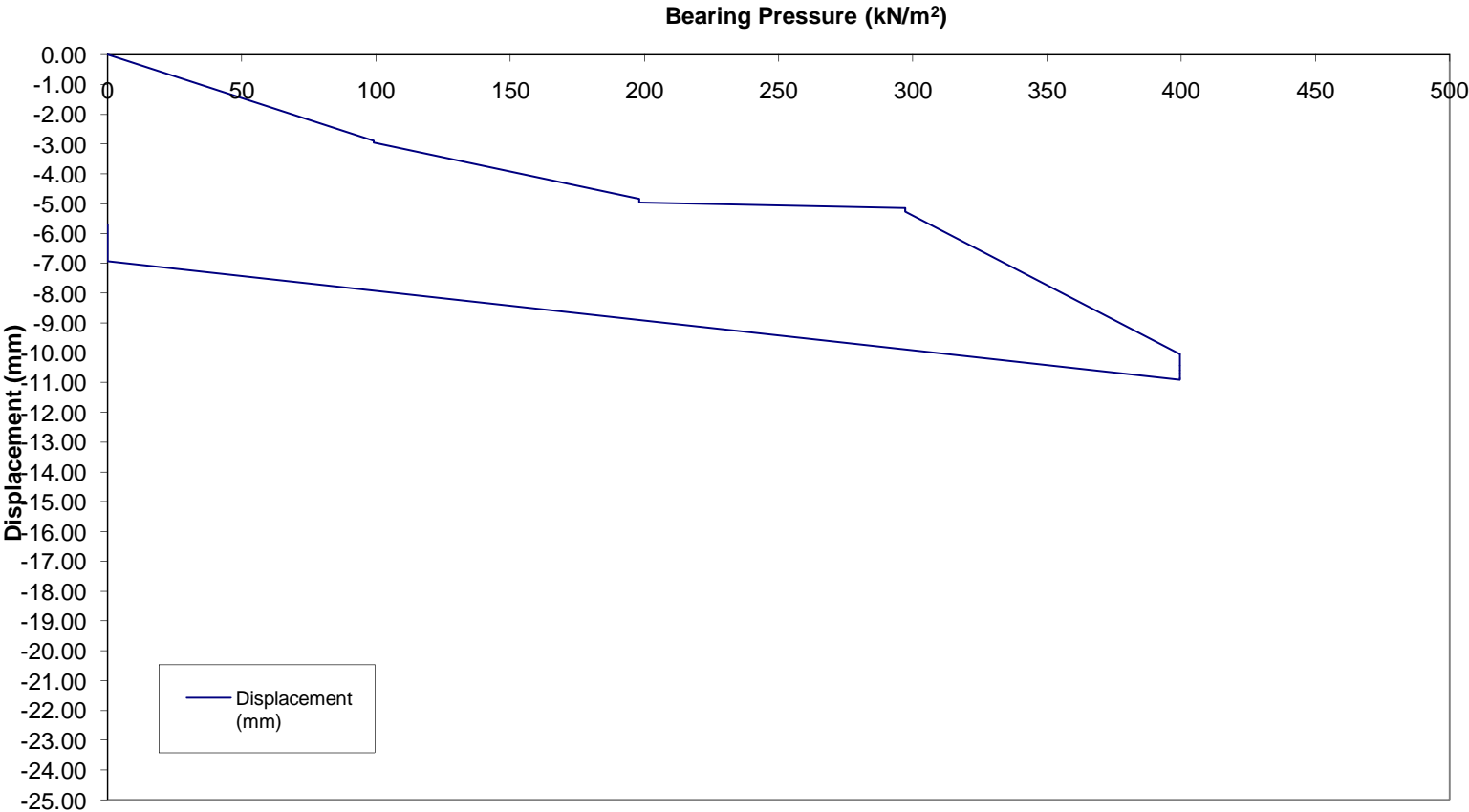


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	99	3.92	3.29	1.47	-2.89	0.00
2	99	3.95	3.31	1.48	-2.91	2.91
3	99	3.96	3.32	1.50	-2.93	0.02
4	99	3.96	3.34	1.50	-2.93	0.01
5	99	3.96	3.35	1.50	-2.94	0.01
6	99	3.96	3.35	1.50	-2.94	0.00
7	99	3.96	3.35	1.50	-2.94	0.00
8	99	3.96	3.35	1.50	-2.94	0.00
9	99	3.96	3.35	1.50	-2.94	0.00
10	99	3.96	3.35	1.50	-2.94	0.00
11	198	6.62	5.27	2.59	-4.83	1.89
12	198	6.72	5.29	2.63	-4.88	0.05
13	198	6.80	5.29	2.68	-4.92	0.04
14	198	6.83	5.31	2.70	-4.95	0.02
15	198	6.85	5.31	2.70	-4.95	0.01
16	198	6.85	5.31	2.70	-4.95	0.00
17	198	6.85	5.31	2.70	-4.95	0.00
18	198	6.85	5.31	2.70	-4.95	0.00
19	198	6.85	5.31	2.70	-4.95	0.00
20	198	6.85	5.31	2.70	-4.95	0.00
21	297	7.11	5.30	2.99	-5.14	0.18
22	297	7.12	5.38	2.99	-5.17	0.03
23	297	7.14	5.42	3.01	-5.19	0.02
24	297	7.18	5.44	3.01	-5.21	0.02
25	297	7.23	5.44	3.01	-5.22	0.01
26	297	7.26	5.45	3.01	-5.24	0.01
27	297	7.29	5.45	3.01	-5.25	0.01
28	297	7.32	5.45	3.01	-5.26	0.01
29	297	7.32	5.45	3.01	-5.26	0.00
30	297	7.32	5.45	3.01	-5.26	0.00
31	400	13.88	9.50	6.78	-10.05	4.79
32	400	14.41	9.57	7.31	-10.43	0.38
33	400	14.58	9.64	7.56	-10.59	0.16
34	400	14.72	9.73	7.66	-10.70	0.11
35	400	14.84	9.78	7.89	-10.84	0.13
36	400	14.86	9.80	7.93	-10.86	0.03
37	400	14.88	9.80	7.95	-10.88	0.01
38	400	14.91	9.80	7.99	-10.90	0.02
39	400	14.91	9.80	8.02	-10.91	0.01
40	400	14.91	9.80	8.03	-10.91	0.00
41	0	9.71	7.07	4.00	-6.93	-3.99
45	0	8.54	5.45	3.11	-5.70	-1.22

Time vs Displacement TP3

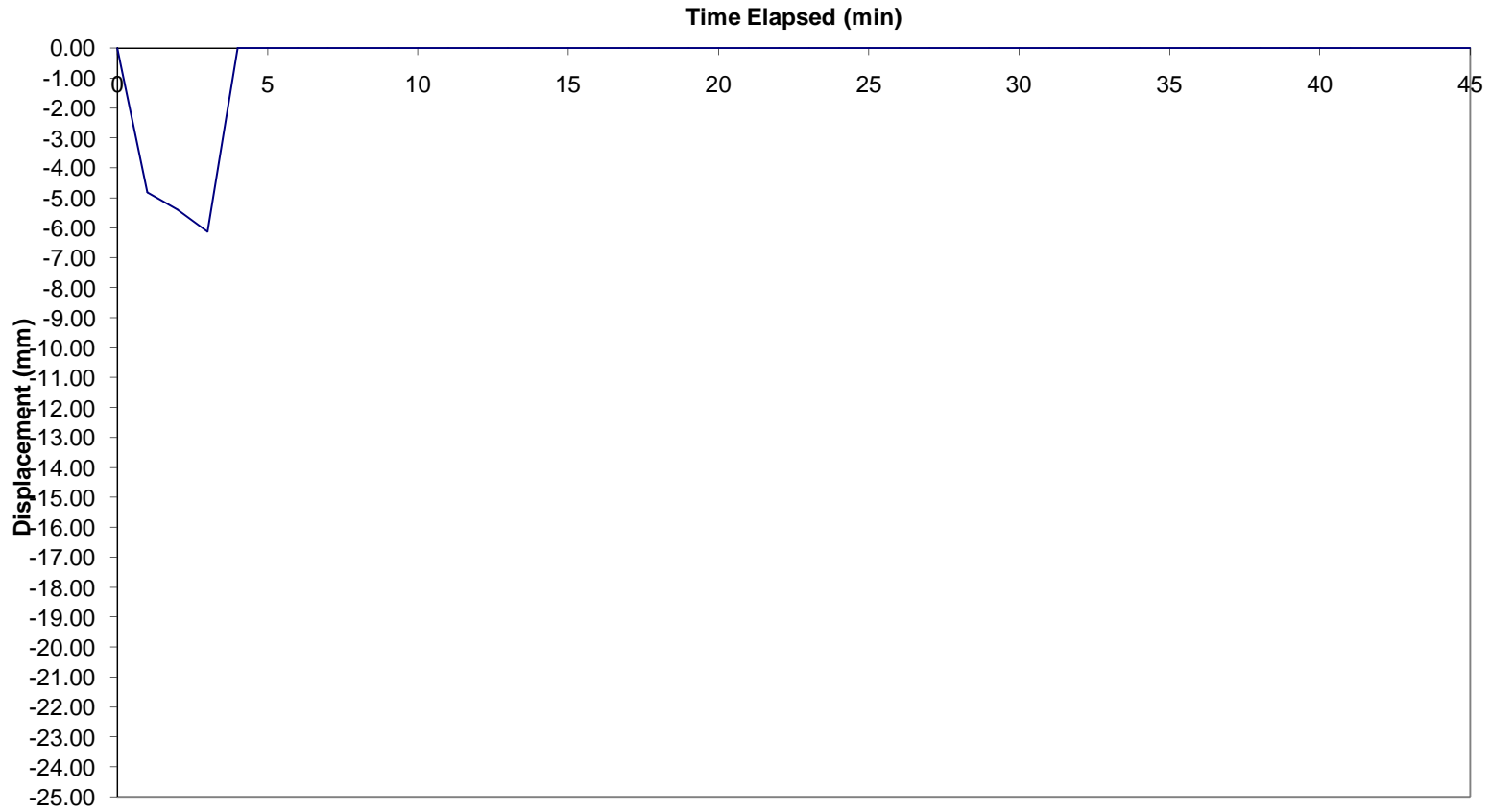


Load vs Settlement Lostock TP3

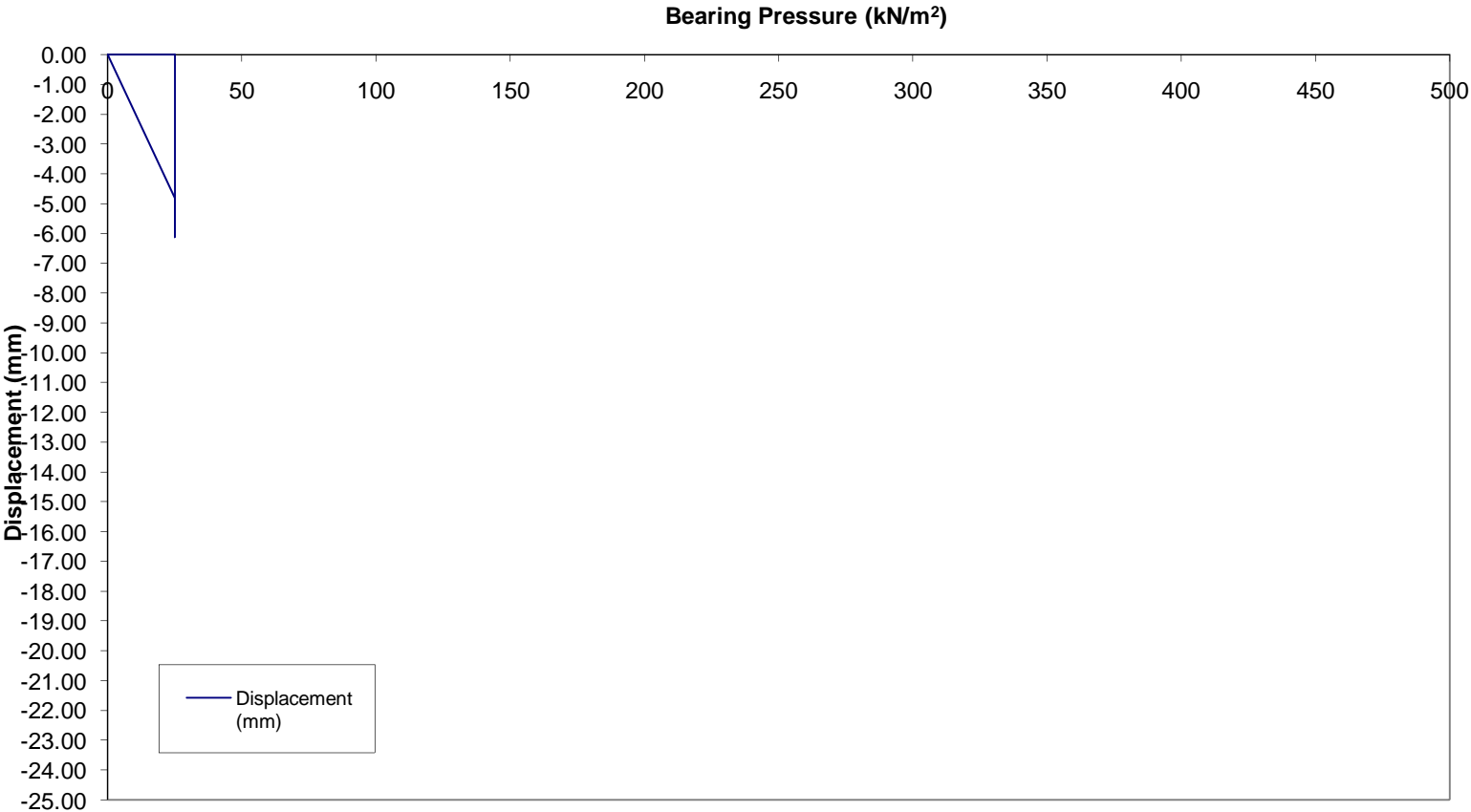


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	4.56	5.44	4.44	-4.81	0.00
2	25	4.78	6.17	5.22	-5.39	5.39
3	25	5.02	7.32	6.02	-6.12	0.73
4	25	0.00	0.00	0.00	0.00	-6.12
5	25	0.00	0.00	0.00	0.00	0.00
6	25	0.00	0.00	0.00	0.00	0.00
7	25	0.00	0.00	0.00	0.00	0.00
8	25	0.00	0.00	0.00	0.00	0.00
9	25	0.00	0.00	0.00	0.00	0.00
10	25	0.00	0.00	0.00	0.00	0.00
11	0	0.00	0.00	0.00	0.00	0.00
12	0	0.00	0.00	0.00	0.00	0.00
13	0	0.00	0.00	0.00	0.00	0.00
14	0	0.00	0.00	0.00	0.00	0.00
15	0	0.00	0.00	0.00	0.00	0.00
16	0	0.00	0.00	0.00	0.00	0.00
17	0	0.00	0.00	0.00	0.00	0.00
18	0	0.00	0.00	0.00	0.00	0.00
19	0	0.00	0.00	0.00	0.00	0.00
20	0	0.00	0.00	0.00	0.00	0.00
21	0	0.00	0.00	0.00	0.00	0.00
22	0	0.00	0.00	0.00	0.00	0.00
23	0	0.00	0.00	0.00	0.00	0.00
24	0	0.00	0.00	0.00	0.00	0.00
25	0	0.00	0.00	0.00	0.00	0.00
26	0	0.00	0.00	0.00	0.00	0.00
27	0	0.00	0.00	0.00	0.00	0.00
28	0	0.00	0.00	0.00	0.00	0.00
29	0	0.00	0.00	0.00	0.00	0.00
30	0	0.00	0.00	0.00	0.00	0.00
31	0	0.00	0.00	0.00	0.00	0.00
32	0	0.00	0.00	0.00	0.00	0.00
33	0	0.00	0.00	0.00	0.00	0.00
34	0	0.00	0.00	0.00	0.00	0.00
35	0	0.00	0.00	0.00	0.00	0.00
36	0	0.00	0.00	0.00	0.00	0.00
37	0	0.00	0.00	0.00	0.00	0.00
38	0	0.00	0.00	0.00	0.00	0.00
39	0	0.00	0.00	0.00	0.00	0.00
40	0	0.00	0.00	0.00	0.00	0.00
41	0	0.00	0.00	0.00	0.00	0.00
45	0	0.00	0.00	0.00	0.00	0.00

Time vs Displacement TP3 Retest

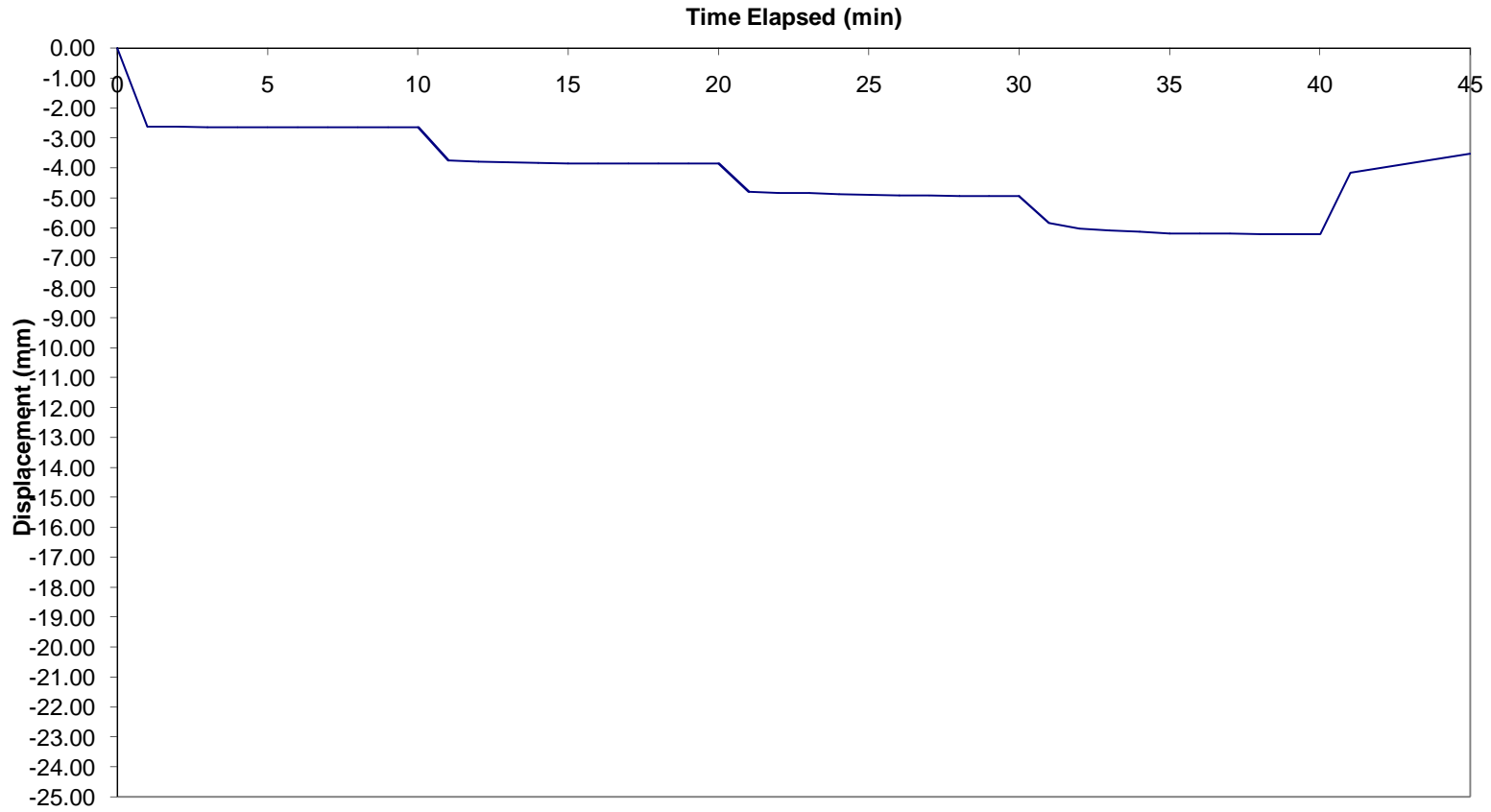


Load vs Settlement Lostock TP3 Retest

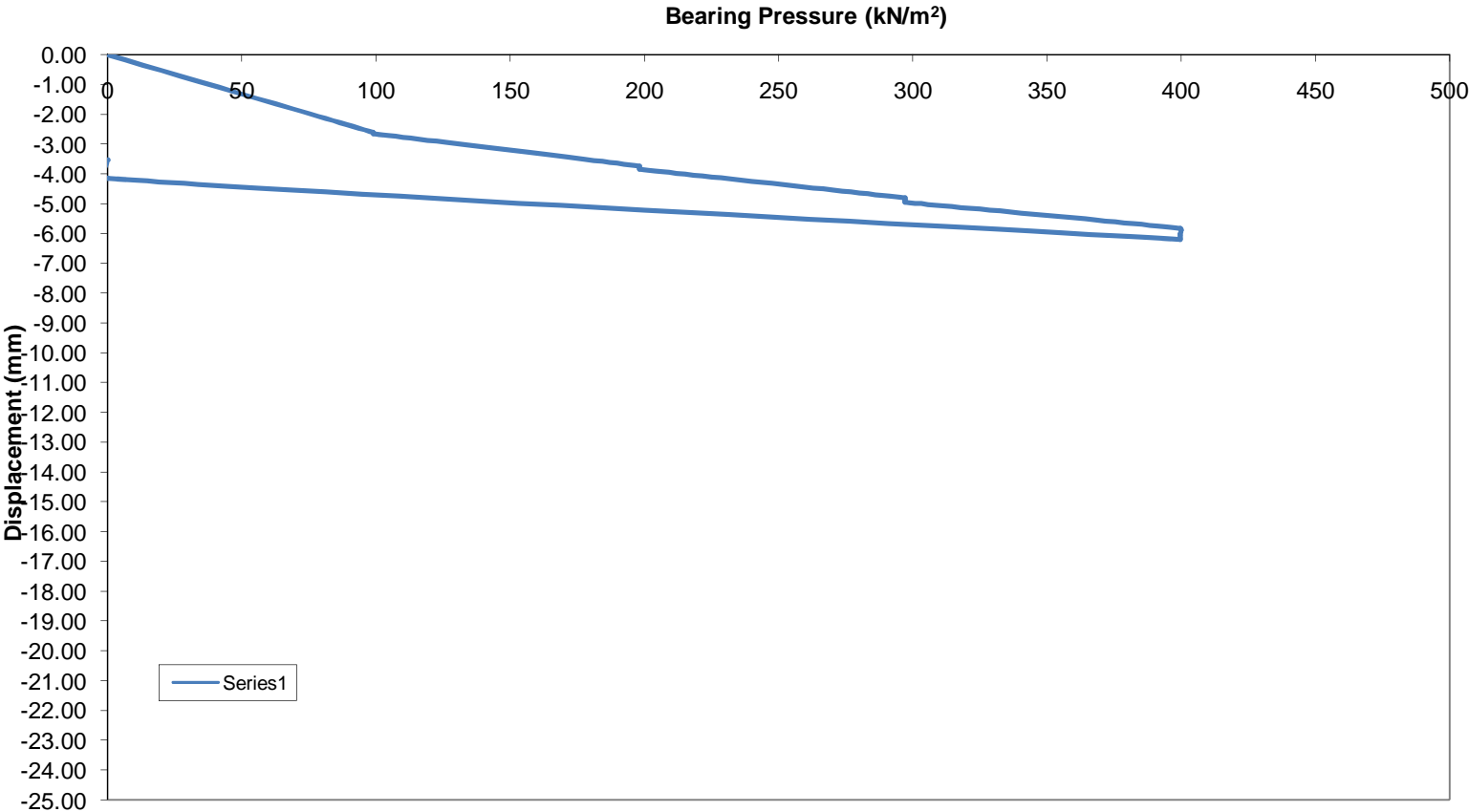


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	99	2.76	2.32	2.76	-2.61	0.00
2	99	2.78	2.33	2.78	-2.63	2.63
3	99	2.79	2.34	2.79	-2.64	0.01
4	99	2.79	2.35	2.79	-2.65	0.00
5	99	2.79	2.37	2.79	-2.65	0.00
6	99	2.79	2.37	2.79	-2.65	0.00
7	99	2.79	2.37	2.79	-2.65	0.00
8	99	2.79	2.37	2.79	-2.65	0.00
9	99	2.79	2.37	2.79	-2.65	0.00
10	99	2.79	2.37	2.79	-2.65	0.00
11	198	4.02	3.20	4.02	-3.74	1.09
12	198	4.08	3.21	4.08	-3.79	0.05
13	198	4.13	3.21	4.13	-3.82	0.03
14	198	4.15	3.22	4.15	-3.84	0.02
15	198	4.16	3.22	4.16	-3.85	0.01
16	198	4.16	3.22	4.16	-3.85	0.00
17	198	4.16	3.22	4.16	-3.85	0.00
18	198	4.16	3.22	4.16	-3.85	0.00
19	198	4.16	3.22	4.16	-3.85	0.00
20	198	4.16	3.22	4.16	-3.85	0.00
21	297	5.25	3.92	5.25	-4.80	0.96
22	297	5.26	3.97	5.26	-4.83	0.03
23	297	5.27	4.00	5.27	-4.85	0.02
24	297	5.30	4.02	5.30	-4.87	0.03
25	297	5.34	4.02	5.34	-4.90	0.02
26	297	5.36	4.03	5.36	-4.91	0.02
27	297	5.38	4.03	5.38	-4.93	0.01
28	297	5.40	4.03	5.40	-4.94	0.01
29	297	5.40	4.03	5.40	-4.94	0.00
30	297	5.40	4.03	5.40	-4.94	0.00
31	400	6.52	4.47	6.52	-5.84	0.89
32	400	6.78	4.50	6.78	-6.02	0.18
33	400	6.85	4.53	6.85	-6.08	0.06
34	400	6.92	4.58	6.92	-6.14	0.06
35	400	6.97	4.60	6.97	-6.18	0.04
36	400	6.99	4.61	6.99	-6.19	0.01
37	400	7.00	4.61	7.00	-6.20	0.01
38	400	7.01	4.61	7.01	-6.21	0.01
39	400	7.01	4.61	7.01	-6.21	0.00
40	400	7.01	4.61	7.01	-6.21	0.00
41	0	4.57	3.32	4.57	-4.15	-2.06
45	0	4.02	2.56	4.02	-3.53	-0.62

Time vs Displacement Lostock TP4

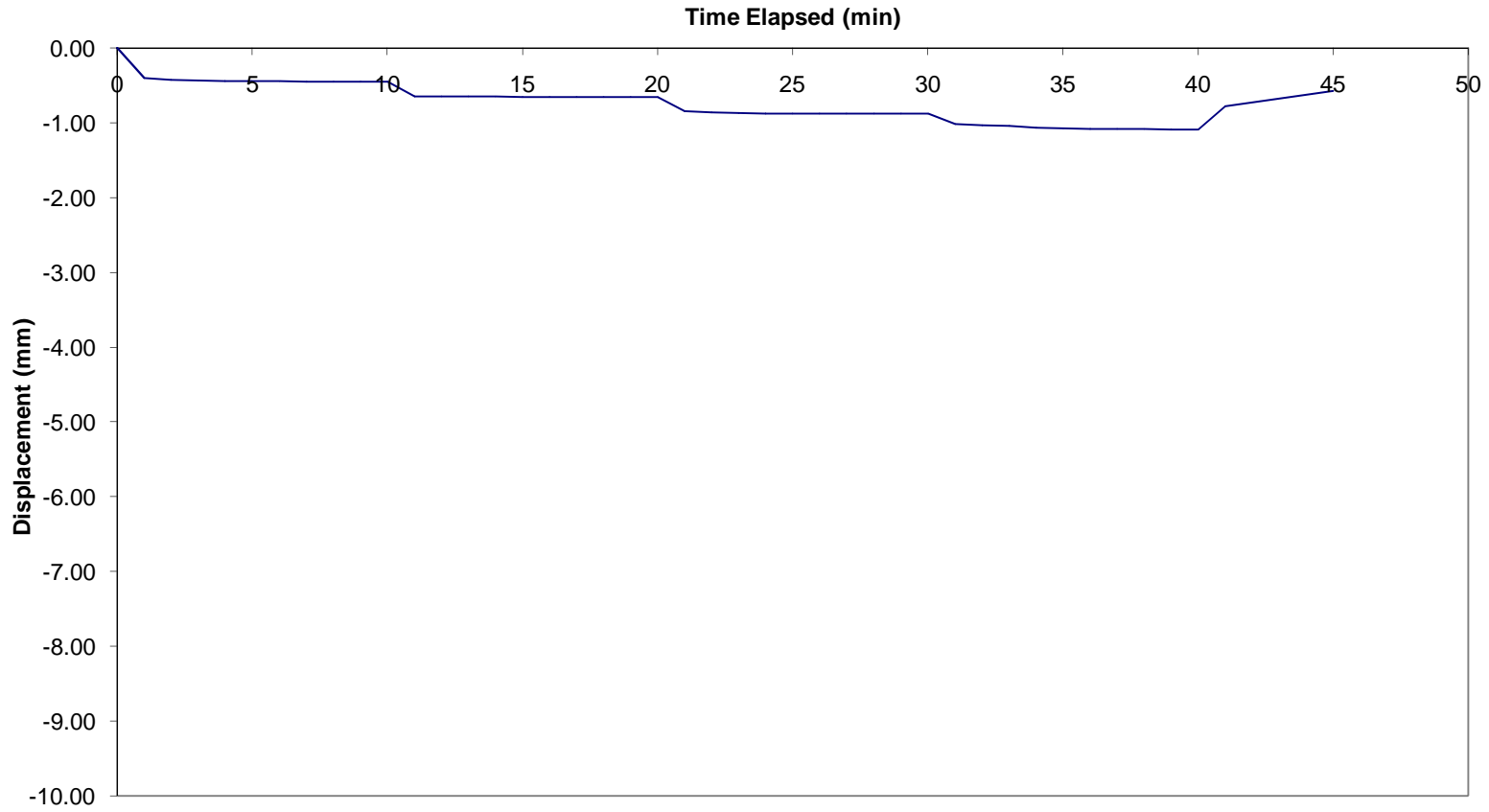


Load vs Settlement Lostock TP4

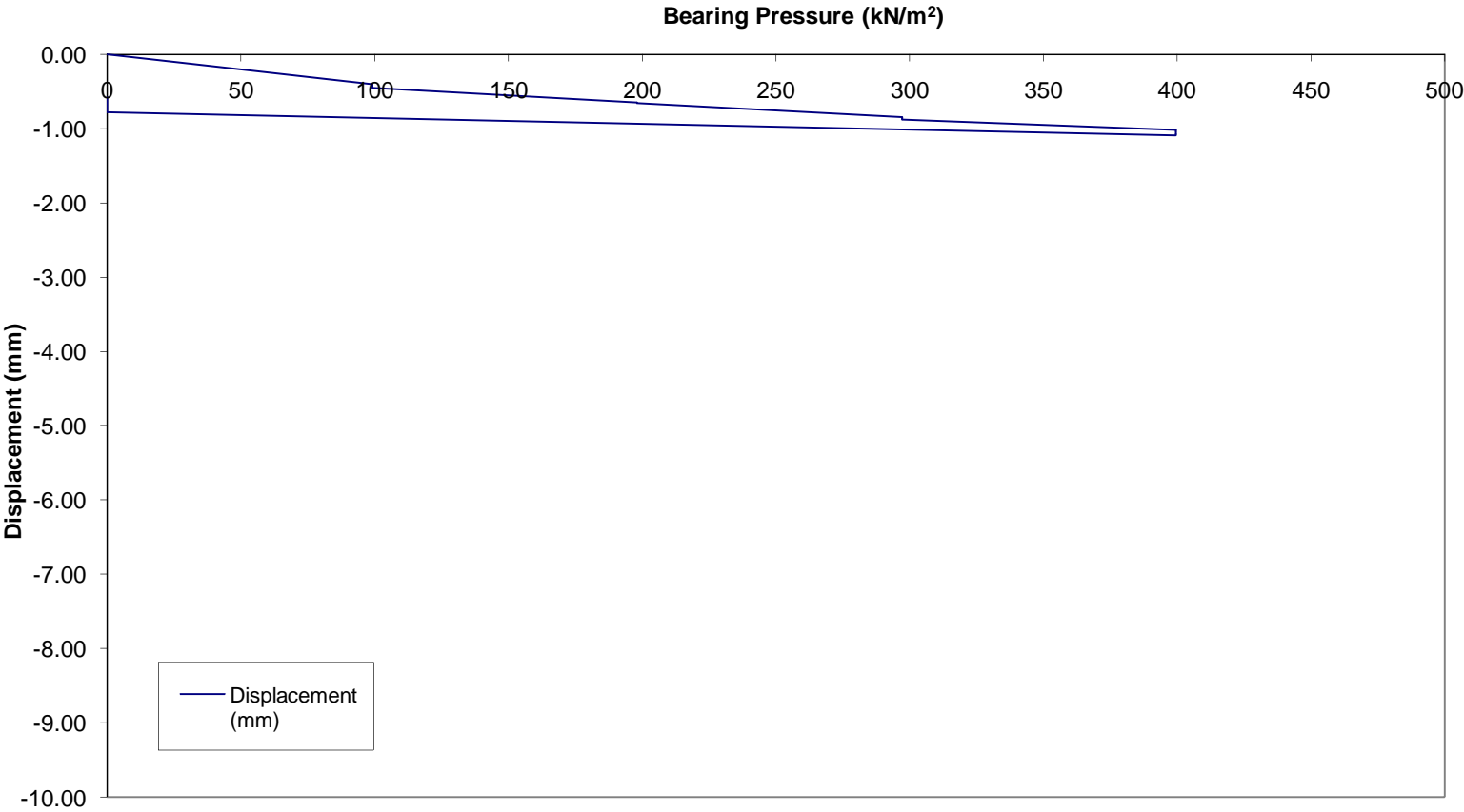


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	99	0.46	0.29	0.44	-0.40	0.00
2	99	0.46	0.29	0.52	-0.43	0.43
3	99	0.47	0.30	0.54	-0.43	0.01
4	99	0.47	0.30	0.55	-0.44	0.00
5	99	0.47	0.30	0.56	-0.44	0.00
6	99	0.47	0.30	0.57	-0.45	0.00
7	99	0.47	0.30	0.58	-0.45	0.00
8	99	0.47	0.30	0.58	-0.45	0.00
9	99	0.47	0.30	0.58	-0.45	0.00
10	99	0.47	0.30	0.58	-0.45	0.00
11	198	0.73	0.47	0.74	-0.65	0.19
12	198	0.73	0.48	0.74	-0.65	0.00
13	198	0.73	0.48	0.74	-0.65	0.00
14	198	0.71	0.49	0.74	-0.65	0.00
15	198	0.73	0.49	0.74	-0.65	0.01
16	198	0.73	0.49	0.74	-0.65	0.00
17	198	0.73	0.49	0.74	-0.65	0.00
18	198	0.73	0.49	0.74	-0.65	0.00
19	198	0.73	0.49	0.74	-0.65	0.00
20	198	0.73	0.49	0.74	-0.65	0.00
21	297	0.95	0.63	0.96	-0.84	0.19
22	297	0.98	0.64	0.96	-0.86	0.02
23	297	0.98	0.65	0.99	-0.87	0.01
24	297	0.99	0.65	0.99	-0.88	0.00
25	297	1.00	0.65	0.99	-0.88	0.00
26	297	1.00	0.65	0.99	-0.88	0.00
27	297	1.00	0.65	0.99	-0.88	0.00
28	297	1.00	0.65	0.99	-0.88	0.00
29	297	1.00	0.65	0.99	-0.88	0.00
30	297	1.00	0.65	0.99	-0.88	0.00
31	400	1.15	0.76	1.13	-1.02	0.14
32	400	1.18	0.77	1.14	-1.03	0.01
33	400	1.19	0.78	1.14	-1.04	0.01
34	400	1.20	0.79	1.20	-1.06	0.02
35	400	1.22	0.79	1.21	-1.07	0.01
36	400	1.22	0.80	1.22	-1.08	0.01
37	400	1.23	0.80	1.22	-1.08	0.00
38	400	1.23	0.80	1.22	-1.09	0.00
39	400	1.23	0.80	1.22	-1.09	0.00
40	400	1.23	0.81	1.22	-1.09	0.00
41	0	0.86	0.48	1.00	-0.78	-0.31
45	0	0.64	0.31	0.78	-0.58	-0.20

Time vs Displacement Lostock TP5

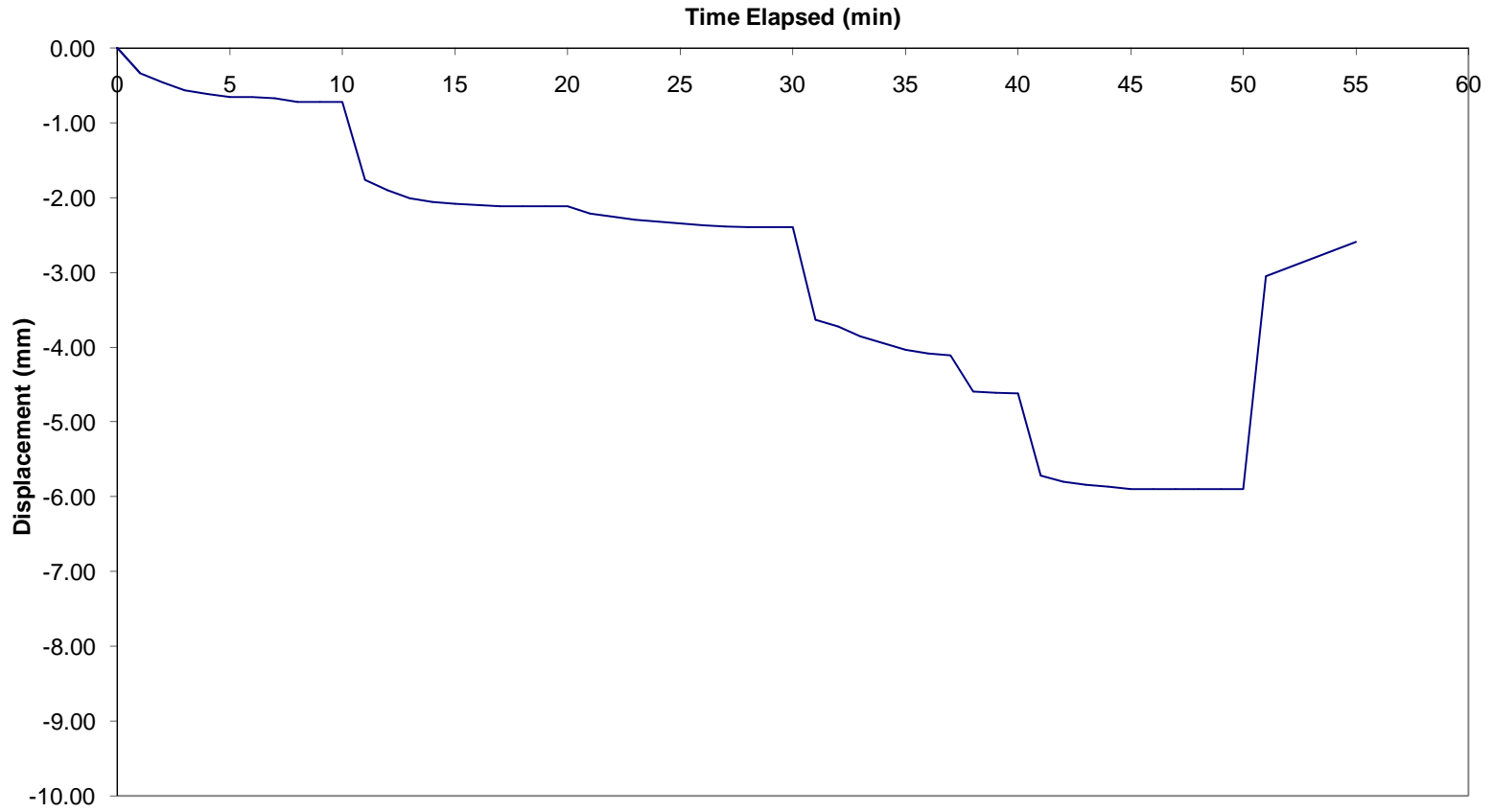


Load vs Settlement Lostock TP5

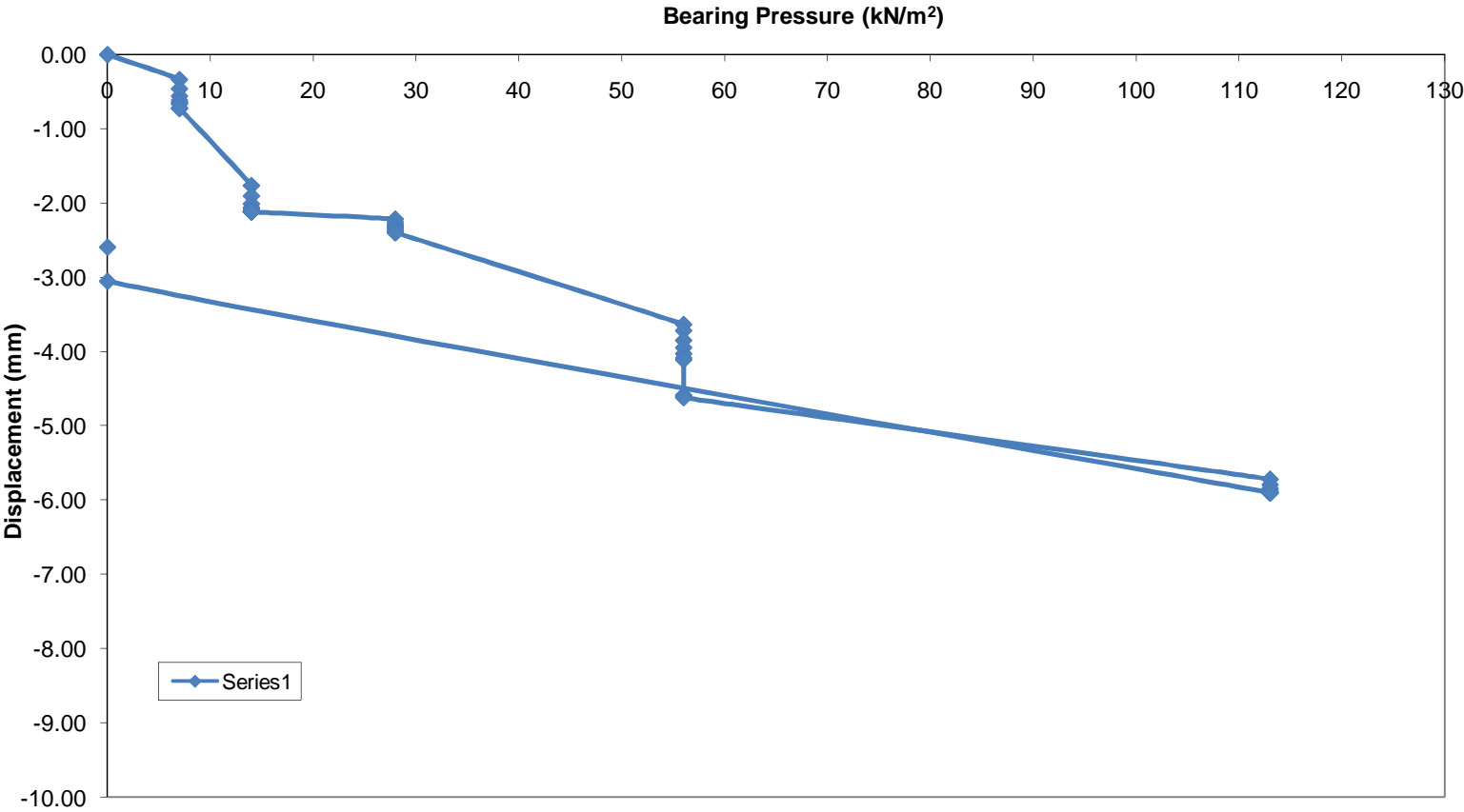


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	7	0.37	0.48	0.16	-0.33	0.00
2	7	0.48	0.74	0.16	-0.46	0.46
3	7	0.63	0.85	0.21	-0.56	0.11
4	7	0.63	0.90	0.32	-0.62	0.05
5	7	0.63	0.95	0.37	-0.65	0.04
6	7	0.63	0.95	0.37	-0.65	0.00
7	7	0.63	1.00	0.37	-0.67	0.02
8	7	0.79	1.00	0.37	-0.72	0.05
9	7	0.79	1.00	0.37	-0.72	0.00
10	7	0.79	1.00	0.37	-0.72	0.00
11	14	1.74	2.33	1.22	-1.76	1.04
12	14	1.74	2.43	1.53	-1.90	0.14
13	14	1.74	2.48	1.80	-2.01	0.11
14	14	1.80	2.54	1.85	-2.06	0.05
15	14	1.80	2.59	1.85	-2.08	0.02
16	14	1.80	2.64	1.85	-2.10	0.02
17	14	1.85	2.64	1.85	-2.11	0.02
18	14	1.85	2.64	1.85	-2.11	0.00
19	14	1.85	2.64	1.85	-2.11	0.00
20	14	1.85	2.64	1.85	-2.11	0.00
21	28	2.33	2.49	1.83	-2.22	0.10
22	28	2.35	2.56	1.86	-2.26	0.04
23	28	2.37	2.61	1.90	-2.29	0.04
24	28	2.40	2.63	1.93	-2.32	0.02
25	28	2.42	2.63	1.97	-2.34	0.02
26	28	2.49	2.63	2.00	-2.37	0.03
27	28	2.51	2.63	2.02	-2.39	0.02
28	28	2.54	2.63	2.02	-2.40	0.01
29	28	2.54	2.63	2.02	-2.40	0.00
30	28	2.54	2.63	2.02	-2.40	0.00
31	56	3.67	4.21	3.03	-3.63	1.24
32	56	3.74	4.32	3.10	-3.72	0.09
33	56	3.95	4.39	3.22	-3.85	0.13
34	56	4.09	4.44	3.31	-3.95	0.09
35	56	4.14	4.56	3.41	-4.03	0.09
36	56	4.18	4.63	3.45	-4.09	0.05
37	56	4.18	4.65	3.50	-4.11	0.02
38	56	5.62	4.65	3.50	-4.59	0.48
39	56	5.66	4.65	3.50	-4.61	0.02
40	56	5.71	4.65	3.50	-4.62	0.02
41	113	5.76	6.56	4.84	-5.72	1.10
42	113	5.80	6.67	4.91	-5.80	0.08

Time vs Displacement TP6

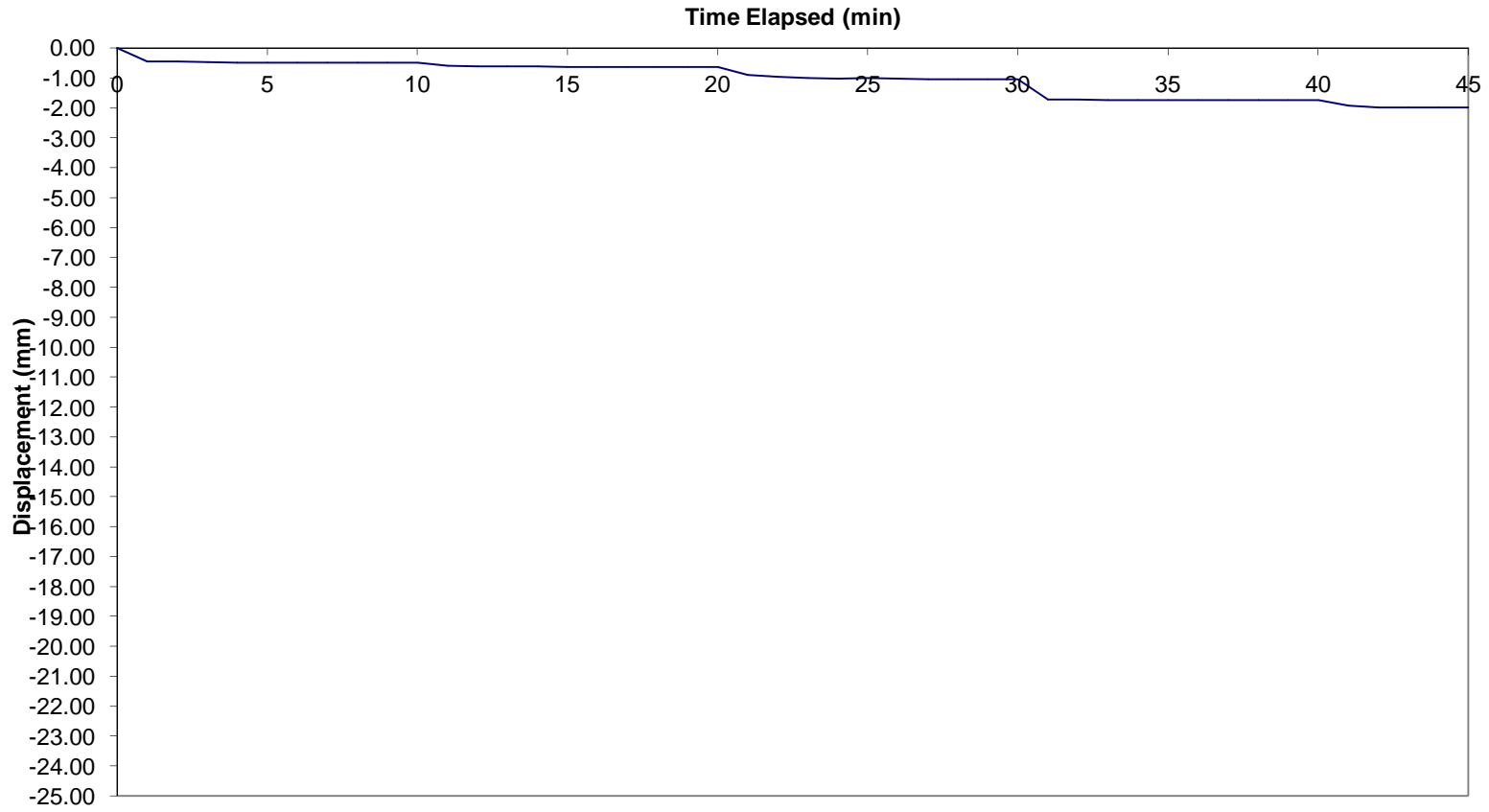


Load vs Settlement Lostock TP6

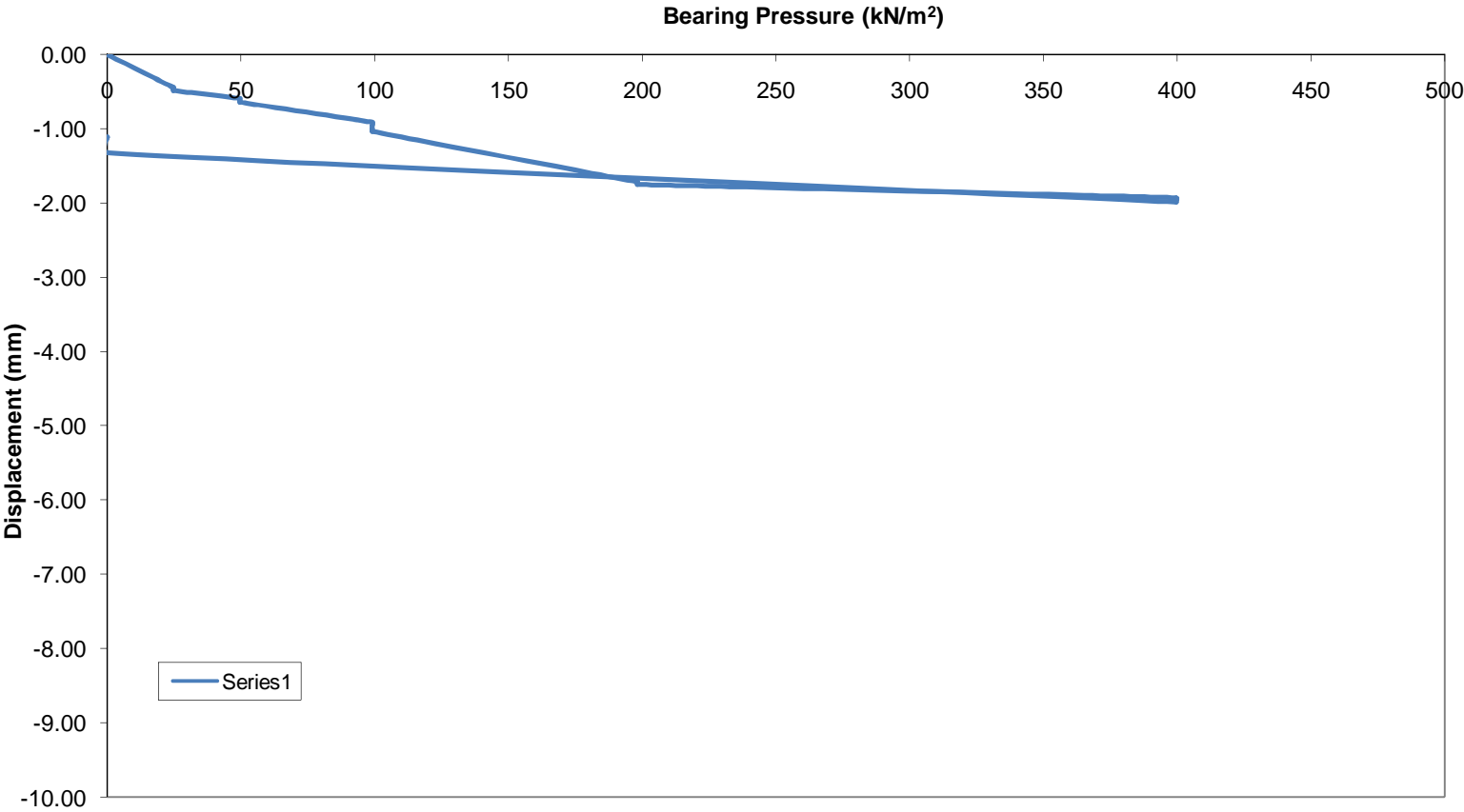


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.38	0.73	0.22	-0.44	0.00
2	25	0.39	0.73	0.23	-0.45	0.45
3	25	0.42	0.73	0.26	-0.47	0.02
4	25	0.43	0.73	0.28	-0.48	0.01
5	25	0.45	0.73	0.29	-0.49	0.01
6	25	0.45	0.73	0.29	-0.49	0.00
7	25	0.45	0.73	0.29	-0.49	0.00
8	25	0.45	0.73	0.29	-0.49	0.00
9	25	0.45	0.73	0.29	-0.49	0.00
10	25	0.45	0.73	0.29	-0.49	0.00
11	50	0.64	0.74	0.40	-0.59	0.10
12	50	0.65	0.74	0.43	-0.61	0.01
13	50	0.65	0.74	0.45	-0.61	0.01
14	50	0.67	0.74	0.45	-0.62	0.01
15	50	0.67	0.74	0.46	-0.62	0.00
16	50	0.68	0.74	0.47	-0.63	0.01
17	50	0.69	0.74	0.47	-0.63	0.00
18	50	0.71	0.74	0.47	-0.64	0.01
19	50	0.72	0.74	0.47	-0.64	0.00
20	50	0.72	0.74	0.47	-0.64	0.00
21	99	0.81	1.25	0.67	-0.91	0.27
22	99	0.89	1.28	0.69	-0.95	0.04
23	99	0.92	1.34	0.72	-0.99	0.04
24	99	0.93	1.38	0.74	-1.02	0.02
25	99	0.95	1.32	0.75	-1.01	-0.01
26	99	0.98	1.35	0.76	-1.03	0.02
27	99	0.98	1.35	0.78	-1.04	0.01
28	99	0.98	1.35	0.78	-1.04	0.00
29	99	0.98	1.35	0.78	-1.04	0.00
30	99	0.98	1.35	0.78	-1.04	0.00
31	198	1.56	1.99	1.59	-1.71	0.68
32	198	1.67	2.02	1.44	-1.71	0.00
33	198	1.73	2.02	1.46	-1.74	0.03
34	198	1.73	2.02	1.47	-1.74	0.00
35	198	1.73	2.02	1.49	-1.75	0.01
36	198	1.73	2.02	1.49	-1.75	0.00
37	198	1.73	2.02	1.49	-1.75	0.00
38	198	1.73	2.02	1.49	-1.75	0.00
39	198	1.73	2.02	1.49	-1.75	0.00
40	198	1.73	2.02	1.49	-1.75	0.00
41	400	2.22	2.09	1.49	-1.93	0.19
42	400	2.23	2.12	1.59	-1.98	0.05

Time vs Displacement TP7

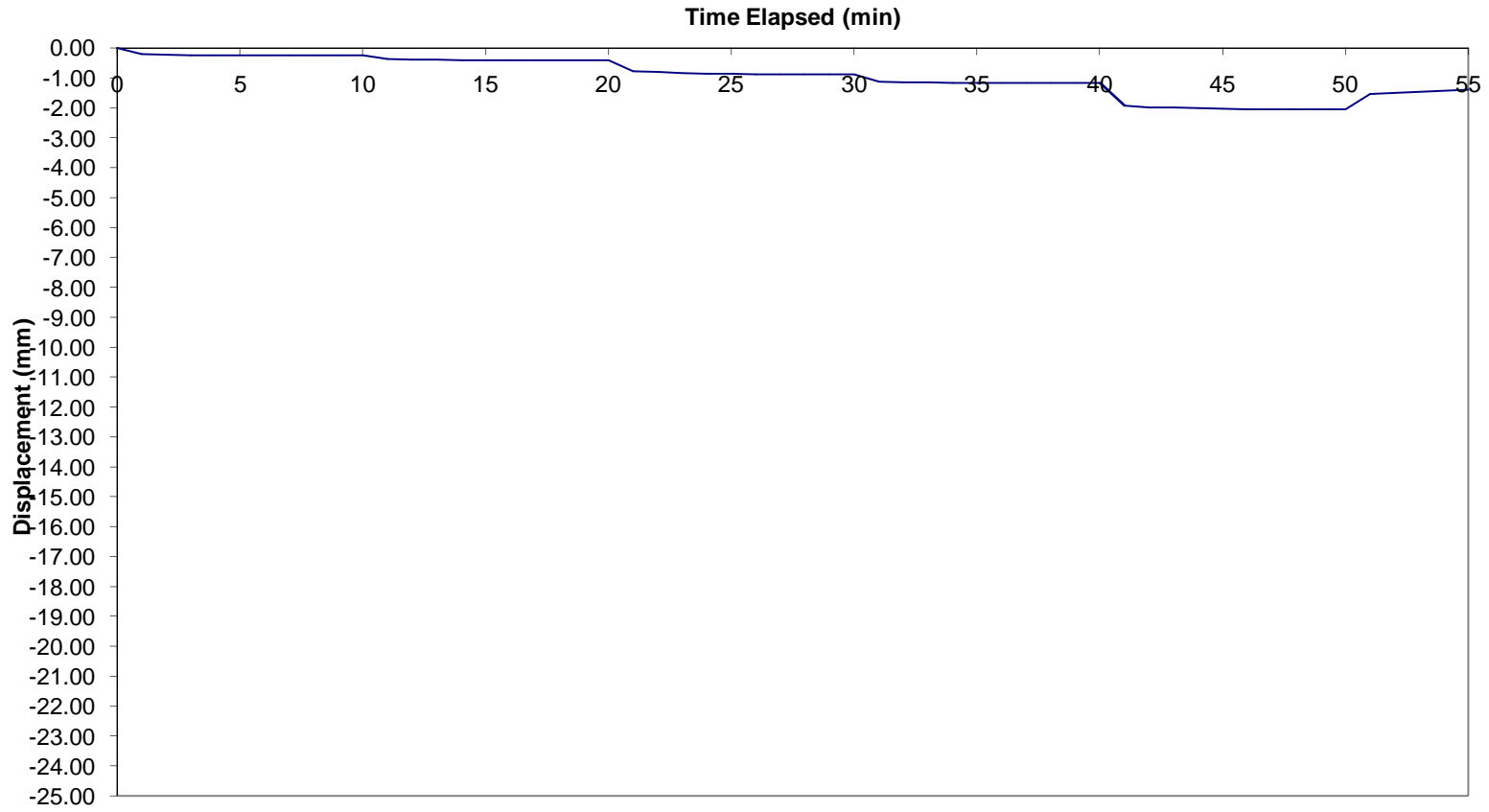


Load vs Settlement Lostock TP7

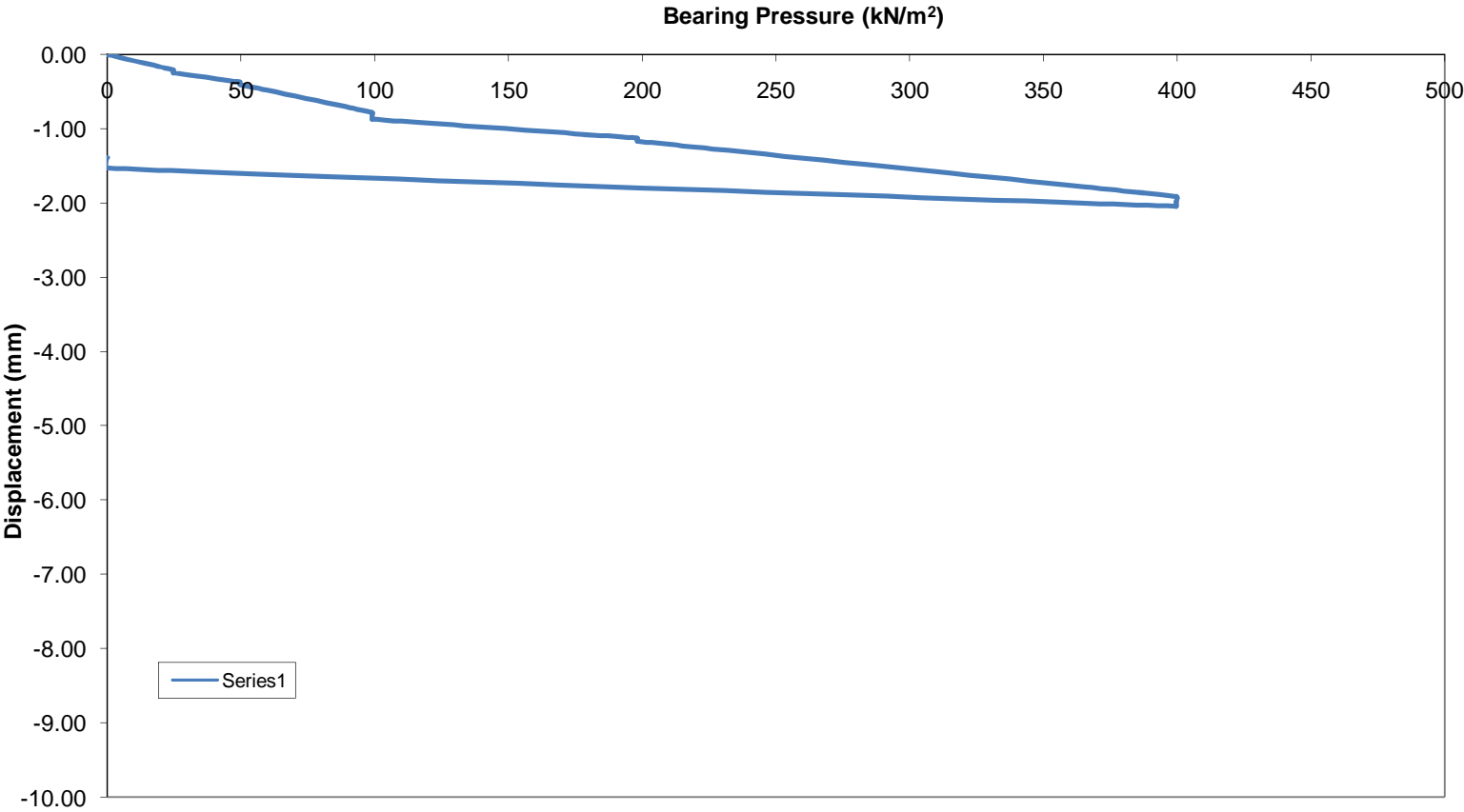


Time (mins)	Pressure (kN/m ²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.22	0.21	0.20	-0.21	0.00
2	25	0.23	0.22	0.21	-0.22	0.22
3	25	0.24	0.23	0.23	-0.23	0.01
4	25	0.25	0.24	0.24	-0.24	0.01
5	25	0.25	0.24	0.26	-0.25	0.01
6	25	0.25	0.24	0.26	-0.25	0.00
7	25	0.25	0.24	0.26	-0.25	0.00
8	25	0.25	0.24	0.26	-0.25	0.00
9	25	0.25	0.24	0.26	-0.25	0.00
10	25	0.25	0.24	0.26	-0.25	0.00
11	50	0.30	0.39	0.42	-0.37	0.12
12	50	0.37	0.39	0.42	-0.39	0.02
13	50	0.38	0.39	0.42	-0.40	0.00
14	50	0.39	0.39	0.42	-0.40	0.00
15	50	0.39	0.39	0.42	-0.40	0.00
16	50	0.39	0.39	0.42	-0.40	0.00
17	50	0.39	0.39	0.42	-0.40	0.00
18	50	0.39	0.39	0.42	-0.40	0.00
19	50	0.39	0.39	0.42	-0.40	0.00
20	50	0.39	0.39	0.42	-0.40	0.00
21	99	0.77	0.75	0.83	-0.78	0.38
22	99	0.79	0.78	0.85	-0.81	0.02
23	99	0.82	0.83	0.87	-0.84	0.03
24	99	0.83	0.86	0.89	-0.86	0.02
25	99	0.84	0.87	0.89	-0.87	0.01
26	99	0.85	0.87	0.89	-0.87	0.00
27	99	0.85	0.87	0.89	-0.87	0.00
28	99	0.85	0.87	0.89	-0.87	0.00
29	99	0.85	0.87	0.89	-0.87	0.00
30	99	0.85	0.87	0.89	-0.87	0.00
31	198	1.12	1.22	1.03	-1.12	0.25
32	198	1.15	1.23	1.03	-1.14	0.01
33	198	1.18	1.25	1.03	-1.15	0.02
34	198	1.19	1.27	1.03	-1.16	0.01
35	198	1.19	1.29	1.03	-1.17	0.01
36	198	1.19	1.29	1.03	-1.17	0.00
37	198	1.19	1.29	1.03	-1.17	0.00
38	198	1.19	1.29	1.03	-1.17	0.00
39	198	1.19	1.29	1.03	-1.17	0.00
40	198	1.19	1.29	1.03	-1.17	0.00
41	400	2.10	1.87	1.78	-1.92	0.75
42	400	2.11	1.93	1.89	-1.98	0.06

Time vs Displacement TP8

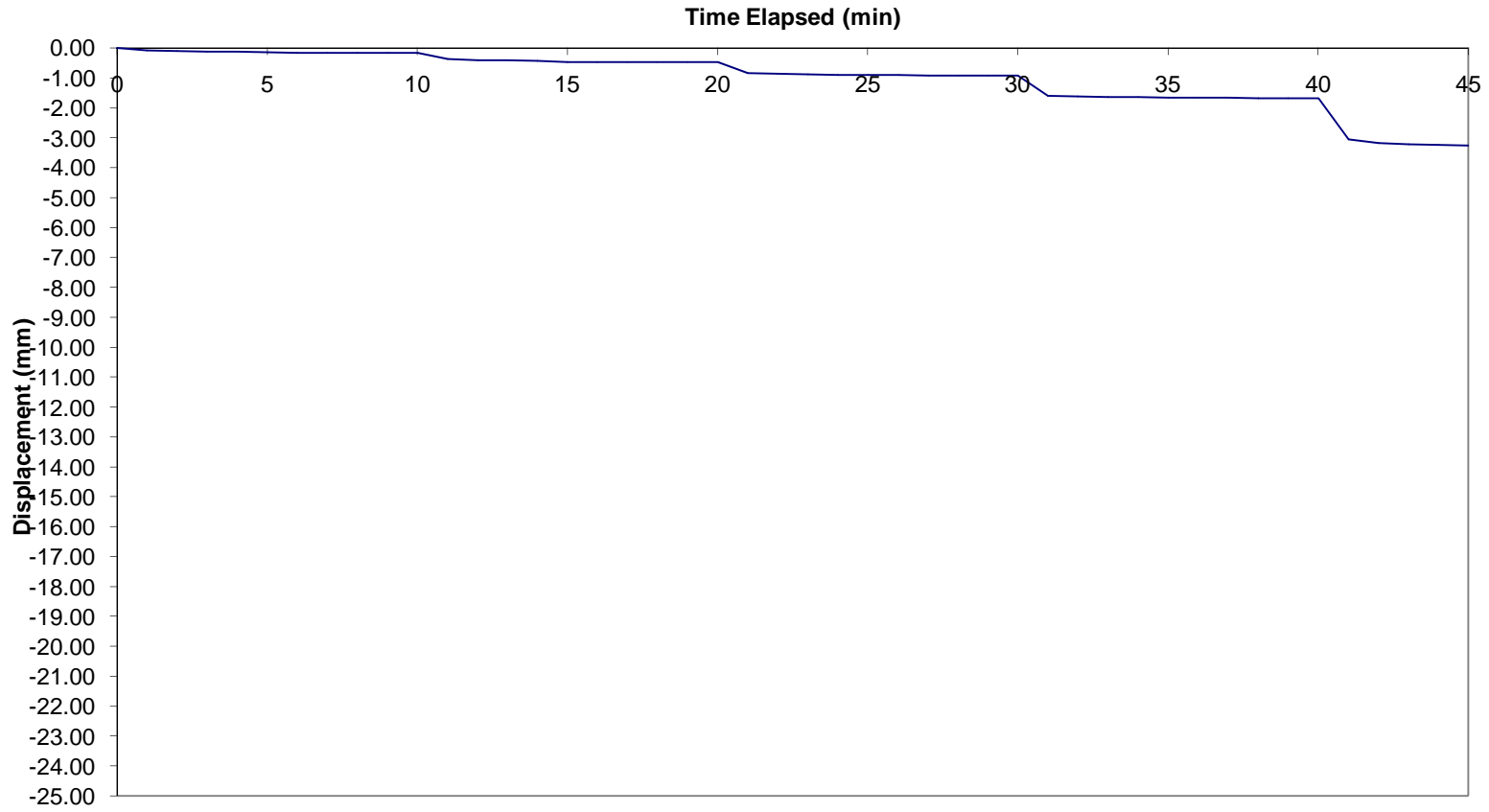


Load vs Settlement Lostock TP8

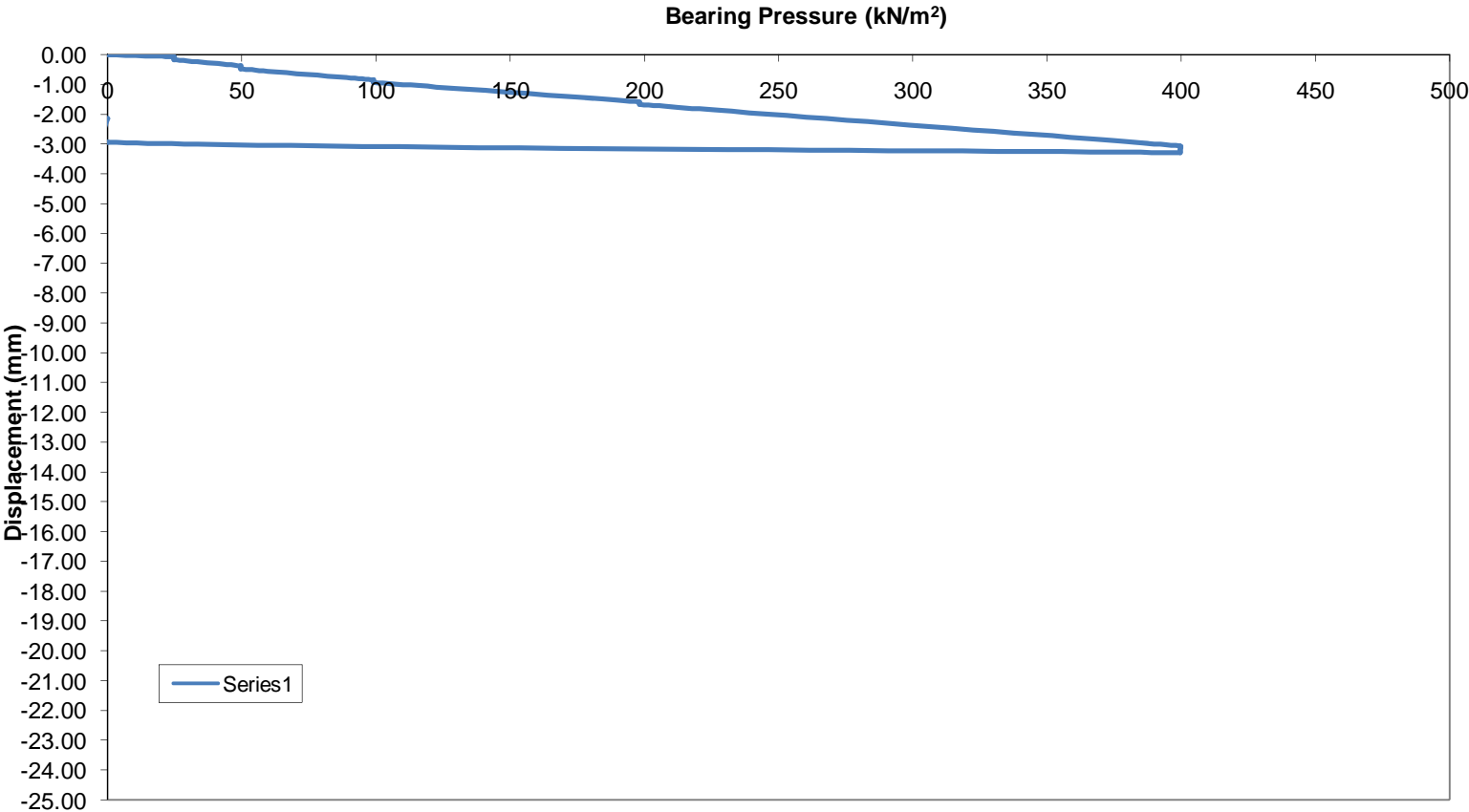


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.09	0.11	0.03	-0.08	0.00
2	25	0.11	0.15	0.05	-0.10	0.10
3	25	0.12	0.16	0.07	-0.12	0.01
4	25	0.13	0.17	0.09	-0.13	0.01
5	25	0.17	0.18	0.10	-0.15	0.02
6	25	0.22	0.18	0.10	-0.17	0.02
7	25	0.22	0.18	0.10	-0.17	0.00
8	25	0.22	0.18	0.10	-0.17	0.00
9	25	0.22	0.18	0.10	-0.17	0.00
10	25	0.22	0.18	0.10	-0.17	0.00
11	50	0.34	0.49	0.29	-0.37	0.21
12	50	0.37	0.52	0.32	-0.40	0.03
13	50	0.38	0.53	0.34	-0.42	0.01
14	50	0.39	0.56	0.35	-0.43	0.02
15	50	0.42	0.58	0.38	-0.46	0.03
16	50	0.43	0.59	0.38	-0.47	0.01
17	50	0.44	0.60	0.38	-0.47	0.01
18	50	0.44	0.60	0.38	-0.47	0.00
19	50	0.44	0.60	0.38	-0.47	0.00
20	50	0.45	0.60	0.38	-0.48	0.00
21	99	0.87	1.05	0.61	-0.84	0.37
22	99	0.88	1.06	0.63	-0.86	0.01
23	99	0.89	1.08	0.66	-0.88	0.02
24	99	0.89	1.09	0.69	-0.89	0.01
25	99	0.89	1.09	0.71	-0.90	0.01
26	99	0.89	1.09	0.73	-0.90	0.01
27	99	0.89	1.09	0.76	-0.91	0.01
28	99	0.89	1.09	0.77	-0.92	0.00
29	99	0.89	1.09	0.78	-0.92	0.00
30	99	0.89	1.09	0.79	-0.92	0.00
31	198	1.36	1.98	1.44	-1.59	0.67
32	198	1.37	1.99	1.50	-1.62	0.03
33	198	1.39	2.00	1.53	-1.64	0.02
34	198	1.42	2.00	1.52	-1.65	0.01
35	198	1.43	2.00	1.53	-1.65	0.01
36	198	1.44	2.00	1.53	-1.66	0.00
37	198	1.45	2.00	1.54	-1.66	0.01
38	198	1.46	2.00	1.55	-1.67	0.01
39	198	1.47	2.00	1.55	-1.67	0.00
40	198	1.47	2.00	1.55	-1.67	0.00
41	400	2.50	3.88	2.81	-3.06	1.39
42	400	2.56	4.04	2.91	-3.17	0.11

Time vs Displacement TP9

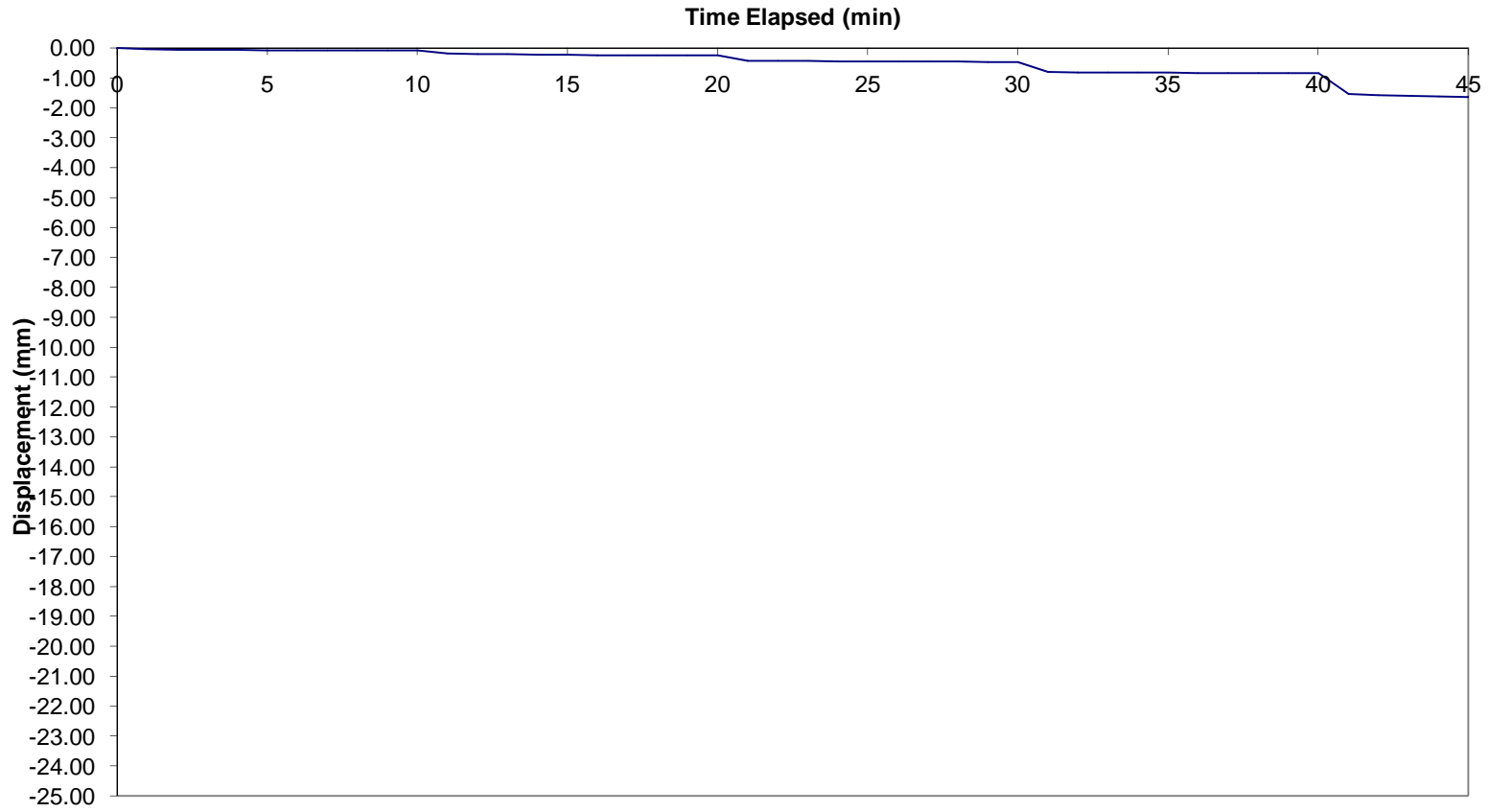


Load vs Settlement Lostock TP9

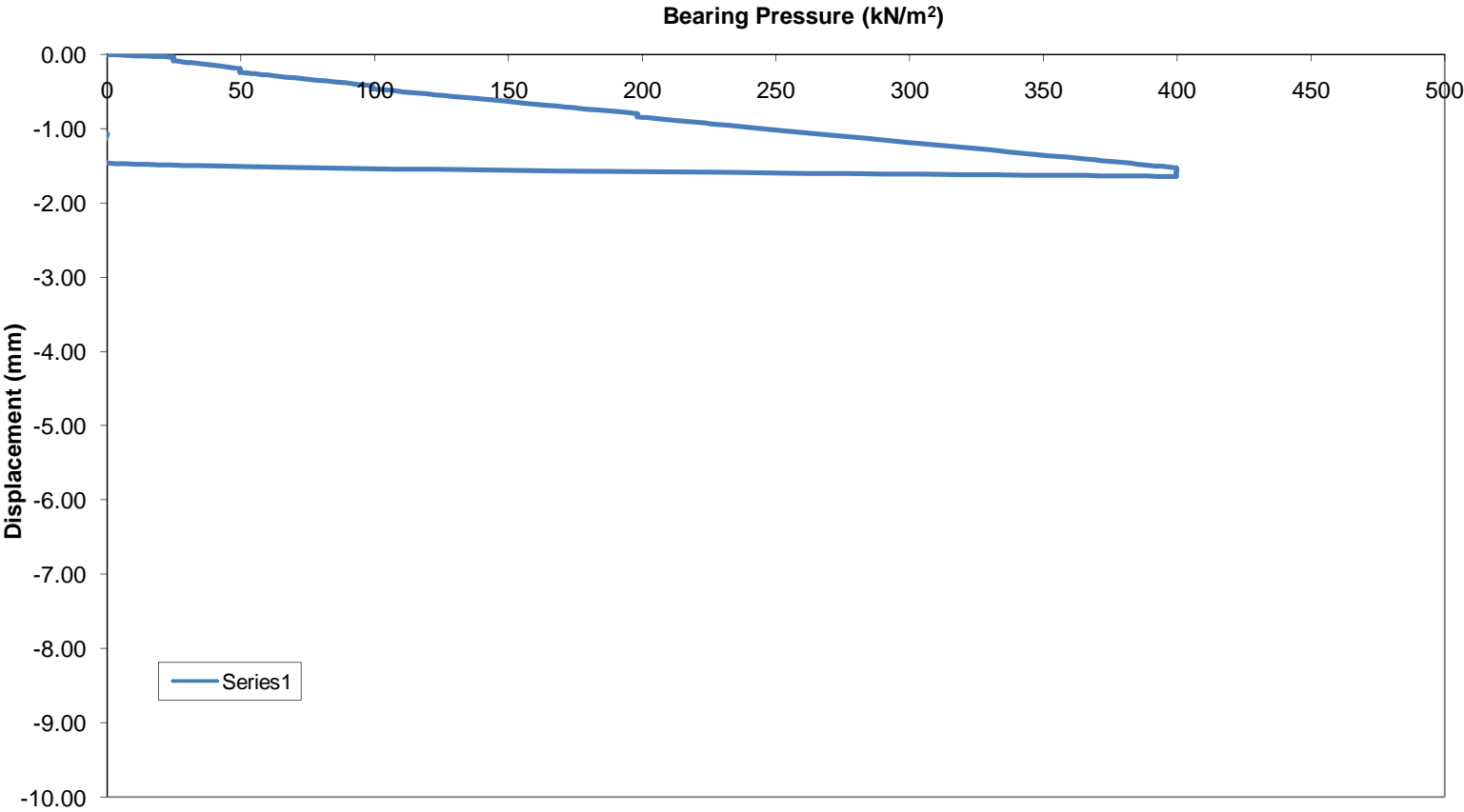


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.05	0.06	0.02	-0.04	0.00
2	25	0.06	0.08	0.03	-0.05	0.05
3	25	0.06	0.08	0.04	-0.06	0.01
4	25	0.07	0.09	0.05	-0.07	0.01
5	25	0.09	0.09	0.05	-0.08	0.01
6	25	0.11	0.09	0.05	-0.08	0.01
7	25	0.11	0.09	0.05	-0.08	0.00
8	25	0.11	0.09	0.05	-0.08	0.00
9	25	0.11	0.09	0.05	-0.08	0.00
10	25	0.11	0.09	0.05	-0.08	0.00
11	50	0.17	0.25	0.15	-0.19	0.10
12	50	0.19	0.26	0.16	-0.20	0.02
13	50	0.19	0.27	0.17	-0.21	0.01
14	50	0.20	0.28	0.18	-0.22	0.01
15	50	0.21	0.29	0.19	-0.23	0.01
16	50	0.22	0.30	0.19	-0.23	0.00
17	50	0.22	0.30	0.19	-0.24	0.00
18	50	0.22	0.30	0.19	-0.24	0.00
19	50	0.22	0.30	0.19	-0.24	0.00
20	50	0.23	0.30	0.19	-0.24	0.00
21	99	0.44	0.53	0.31	-0.42	0.18
22	99	0.44	0.53	0.32	-0.43	0.01
23	99	0.45	0.54	0.33	-0.44	0.01
24	99	0.45	0.55	0.35	-0.45	0.01
25	99	0.45	0.55	0.36	-0.45	0.00
26	99	0.45	0.55	0.37	-0.45	0.00
27	99	0.45	0.55	0.38	-0.46	0.01
28	99	0.45	0.55	0.39	-0.46	0.00
29	99	0.45	0.55	0.39	-0.46	0.00
30	99	0.45	0.55	0.40	-0.46	0.00
31	198	0.68	0.99	0.72	-0.80	0.34
32	198	0.69	1.00	0.75	-0.81	0.01
33	198	0.70	1.00	0.77	-0.82	0.01
34	198	0.71	1.00	0.76	-0.82	0.00
35	198	0.72	1.00	0.77	-0.83	0.00
36	198	0.72	1.00	0.77	-0.83	0.00
37	198	0.73	1.00	0.77	-0.83	0.00
38	198	0.73	1.00	0.78	-0.84	0.00
39	198	0.74	1.00	0.78	-0.84	0.00
40	198	0.74	1.00	0.78	-0.84	0.00
41	400	1.25	1.94	1.41	-1.53	0.70
42	400	1.28	2.02	1.46	-1.59	0.05

Time vs Displacement TP10

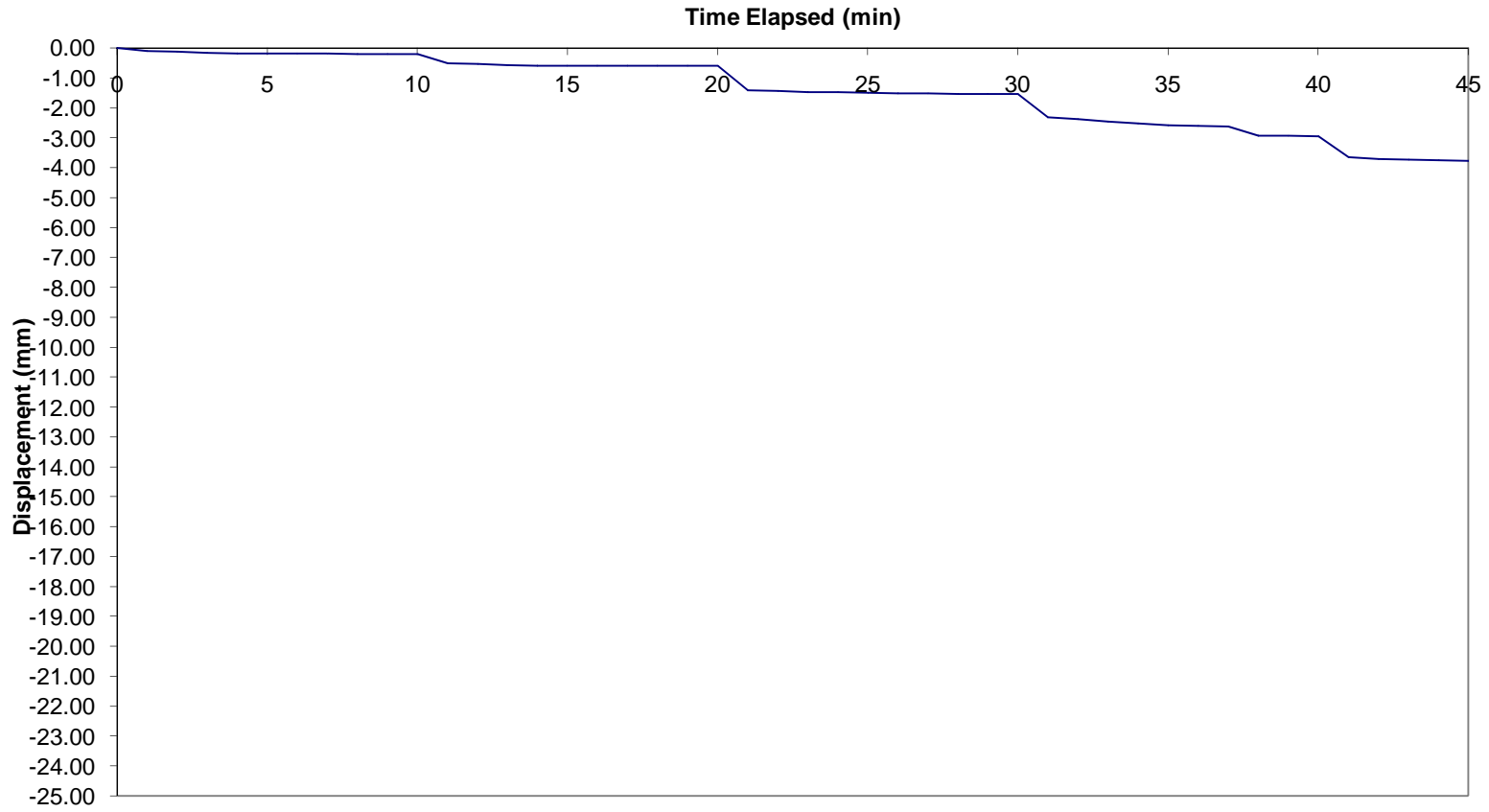


Load vs Settlement Lostock TP10

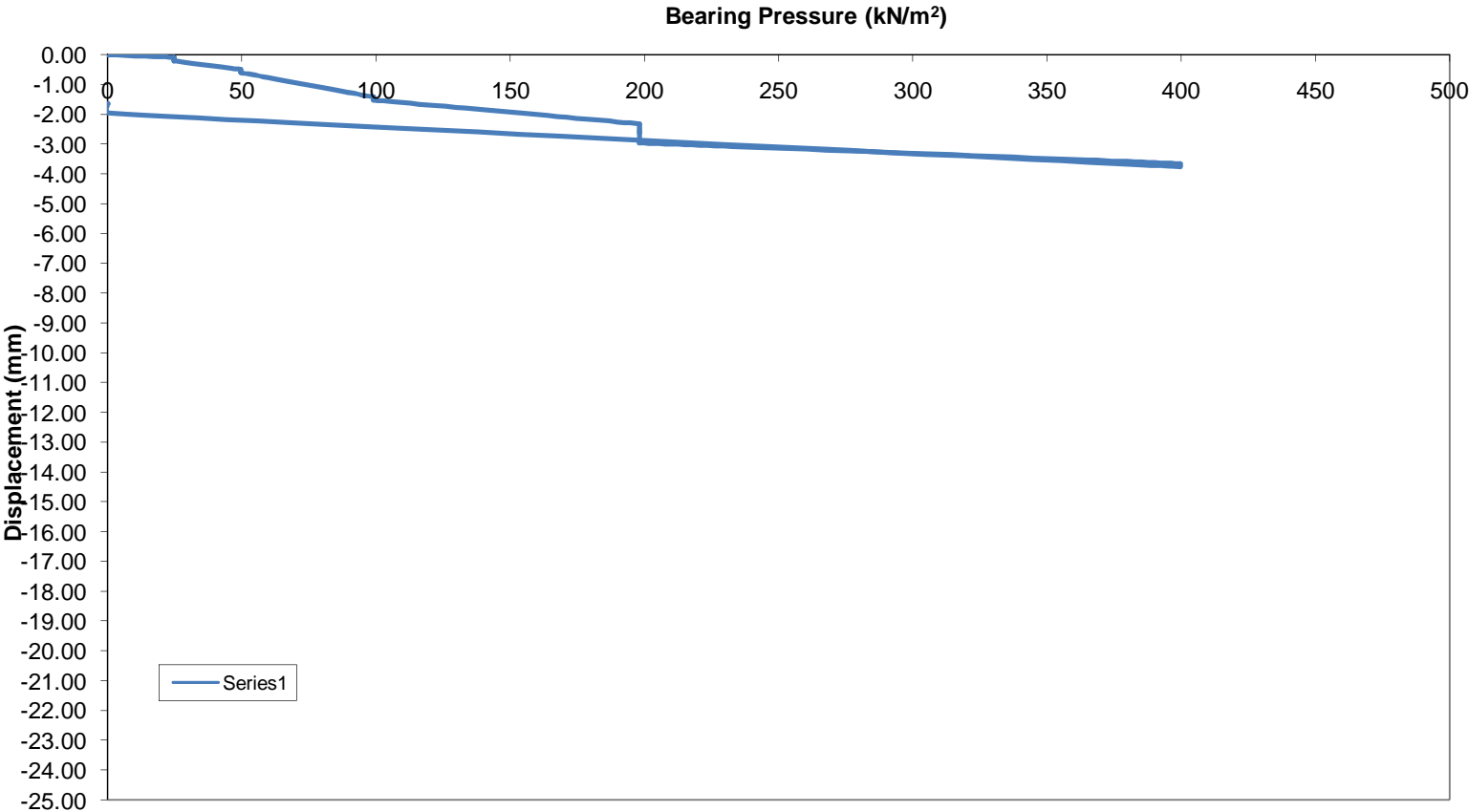


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.11	0.14	0.05	-0.10	0.00
2	25	0.14	0.21	0.05	-0.13	0.13
3	25	0.18	0.24	0.06	-0.16	0.03
4	25	0.18	0.26	0.09	-0.18	0.02
5	25	0.18	0.27	0.11	-0.19	0.01
6	25	0.18	0.27	0.11	-0.19	0.00
7	25	0.18	0.29	0.11	-0.19	0.01
8	25	0.23	0.29	0.11	-0.21	0.02
9	25	0.23	0.29	0.11	-0.21	0.00
10	25	0.23	0.29	0.11	-0.21	0.00
11	50	0.50	0.66	0.35	-0.50	0.30
12	50	0.50	0.69	0.44	-0.54	0.04
13	50	0.50	0.71	0.51	-0.57	0.03
14	50	0.51	0.72	0.53	-0.59	0.02
15	50	0.51	0.74	0.53	-0.59	0.01
16	50	0.51	0.75	0.53	-0.60	0.01
17	50	0.53	0.75	0.53	-0.60	0.01
18	50	0.53	0.75	0.53	-0.60	0.00
19	50	0.53	0.75	0.53	-0.60	0.00
20	50	0.53	0.75	0.53	-0.60	0.00
21	99	1.49	1.59	1.17	-1.42	0.82
22	99	1.50	1.64	1.19	-1.44	0.03
23	99	1.52	1.67	1.22	-1.47	0.02
24	99	1.53	1.68	1.23	-1.48	0.01
25	99	1.55	1.68	1.26	-1.50	0.02
26	99	1.59	1.68	1.28	-1.52	0.02
27	99	1.61	1.68	1.29	-1.53	0.01
28	99	1.62	1.68	1.29	-1.53	0.00
29	99	1.62	1.68	1.29	-1.53	0.00
30	99	1.62	1.68	1.29	-1.53	0.00
31	198	2.34	2.69	1.94	-2.32	0.79
32	198	2.39	2.76	1.98	-2.38	0.05
33	198	2.52	2.81	2.06	-2.46	0.09
34	198	2.61	2.84	2.12	-2.52	0.06
35	198	2.64	2.91	2.18	-2.58	0.06
36	198	2.67	2.96	2.21	-2.61	0.03
37	198	2.67	2.97	2.24	-2.63	0.02
38	198	3.59	2.97	2.24	-2.93	0.31
39	198	3.62	2.97	2.24	-2.94	0.01
40	198	3.65	2.97	2.24	-2.95	0.01
41	400	3.68	4.19	3.09	-3.65	0.70
42	400	3.71	4.26	3.14	-3.70	0.05

Time vs Displacement TP11

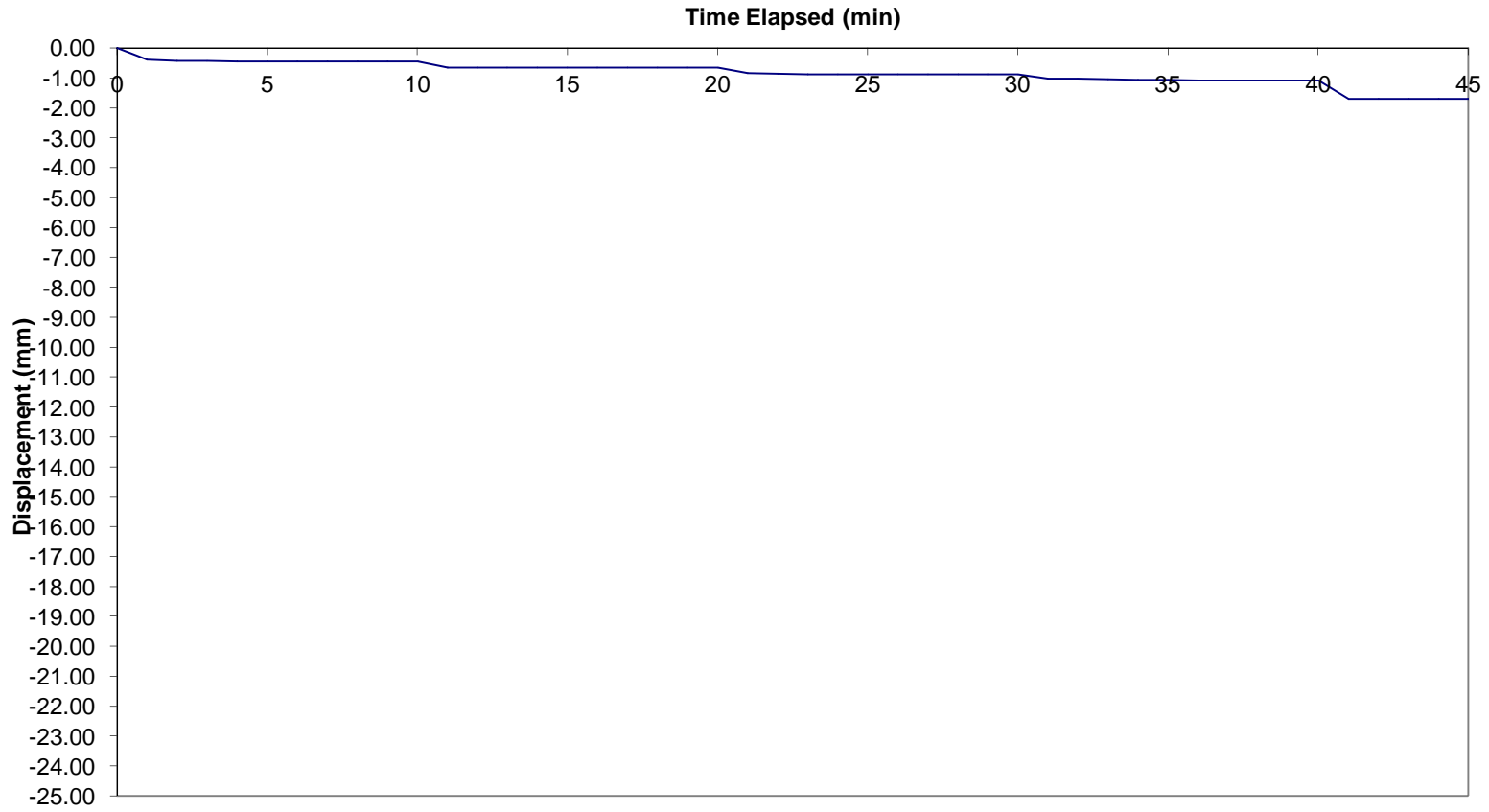


Load vs Settlement Lostock TP11

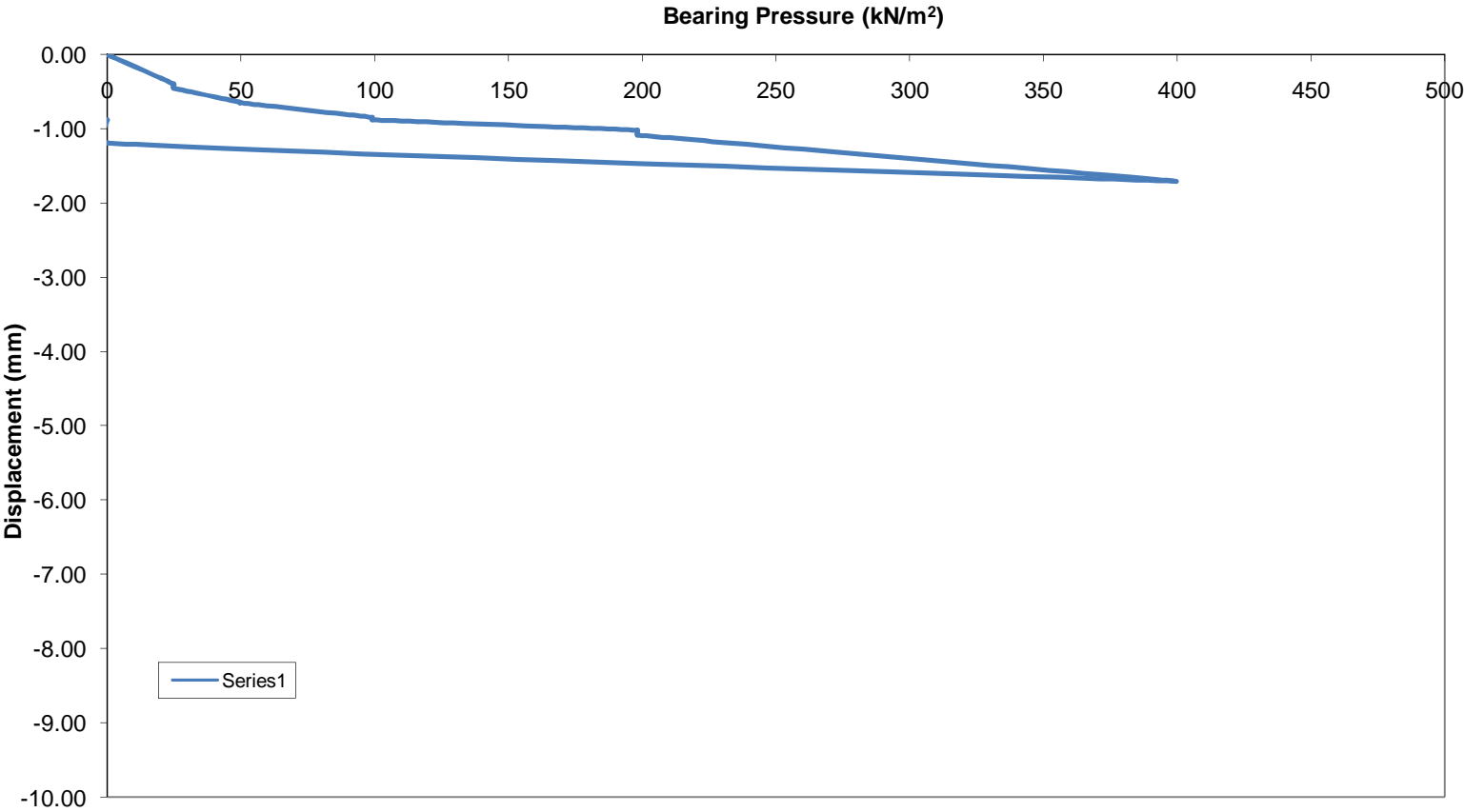


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.46	0.29	0.44	-0.40	0.00
2	25	0.46	0.29	0.52	-0.43	0.43
3	25	0.47	0.30	0.54	-0.43	0.01
4	25	0.47	0.30	0.55	-0.44	0.00
5	25	0.47	0.30	0.56	-0.44	0.00
6	25	0.47	0.30	0.57	-0.45	0.00
7	25	0.47	0.30	0.58	-0.45	0.00
8	25	0.47	0.30	0.58	-0.45	0.00
9	25	0.47	0.30	0.58	-0.45	0.00
10	25	0.47	0.30	0.58	-0.45	0.00
11	50	0.73	0.47	0.74	-0.65	0.19
12	50	0.73	0.48	0.74	-0.65	0.00
13	50	0.73	0.48	0.74	-0.65	0.00
14	50	0.71	0.49	0.74	-0.65	0.00
15	50	0.73	0.49	0.74	-0.65	0.01
16	50	0.73	0.49	0.74	-0.65	0.00
17	50	0.73	0.49	0.74	-0.65	0.00
18	50	0.73	0.49	0.74	-0.65	0.00
19	50	0.73	0.49	0.74	-0.65	0.00
20	50	0.73	0.49	0.74	-0.65	0.00
21	99	0.95	0.63	0.96	-0.84	0.19
22	99	0.98	0.64	0.96	-0.86	0.02
23	99	0.98	0.65	0.99	-0.87	0.01
24	99	0.99	0.65	0.99	-0.88	0.00
25	99	1.00	0.65	0.99	-0.88	0.00
26	99	1.00	0.65	0.99	-0.88	0.00
27	99	1.00	0.65	0.99	-0.88	0.00
28	99	1.00	0.65	0.99	-0.88	0.00
29	99	1.00	0.65	0.99	-0.88	0.00
30	99	1.00	0.65	0.99	-0.88	0.00
31	198	1.15	0.76	1.13	-1.02	0.14
32	198	1.18	0.77	1.14	-1.03	0.01
33	198	1.19	0.78	1.14	-1.04	0.01
34	198	1.20	0.79	1.20	-1.06	0.02
35	198	1.22	0.79	1.21	-1.07	0.01
36	198	1.22	0.80	1.22	-1.08	0.01
37	198	1.23	0.80	1.22	-1.08	0.00
38	198	1.23	0.80	1.22	-1.09	0.00
39	198	1.23	0.80	1.22	-1.09	0.00
40	198	1.23	0.81	1.22	-1.09	0.00
41	400	1.86	1.48	1.78	-1.71	0.62
42	400	1.86	1.48	1.78	-1.71	0.00

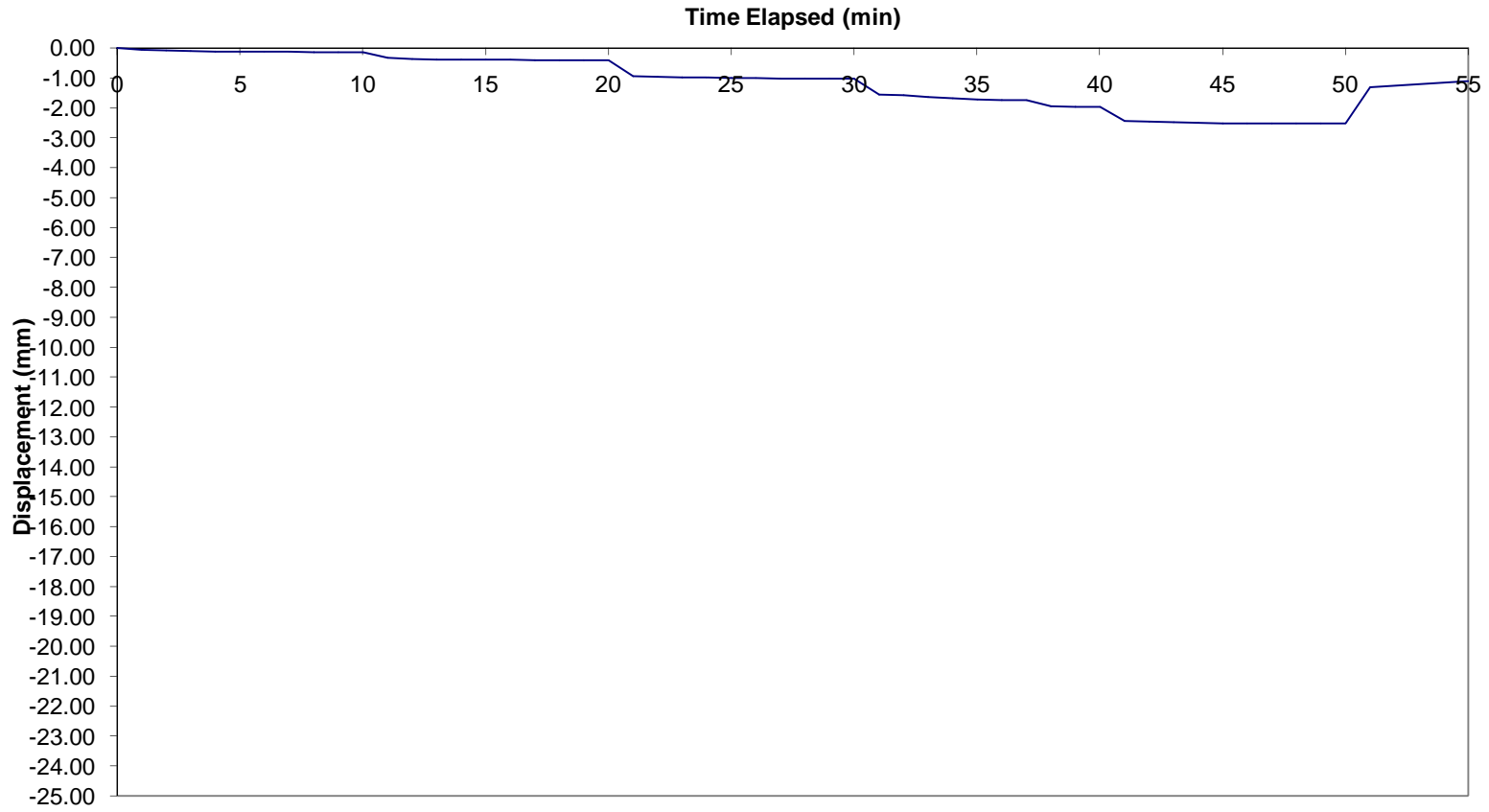
Time vs Displacement TP12



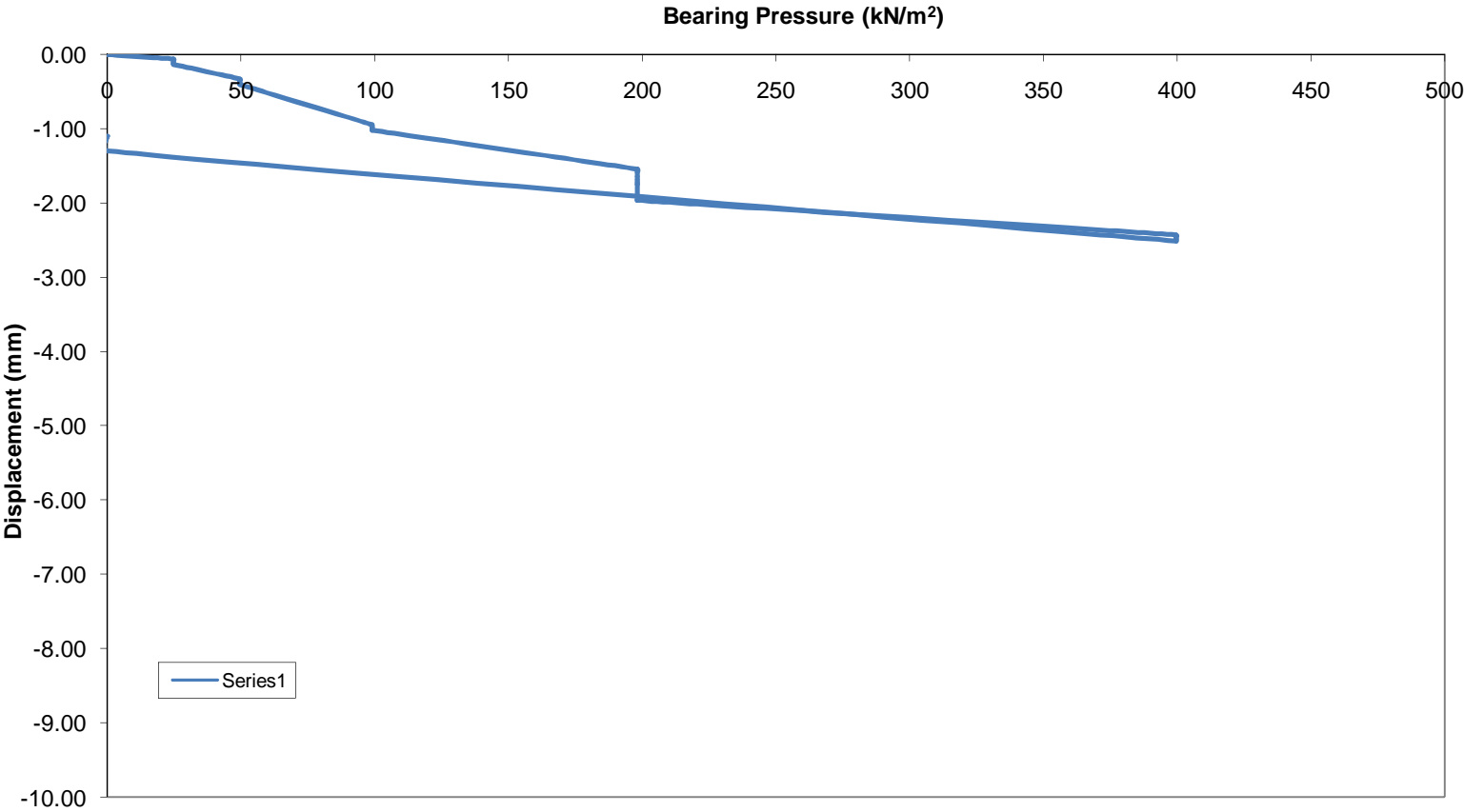
Load vs Settlement Lostock TP12



Time vs Displacement TP13



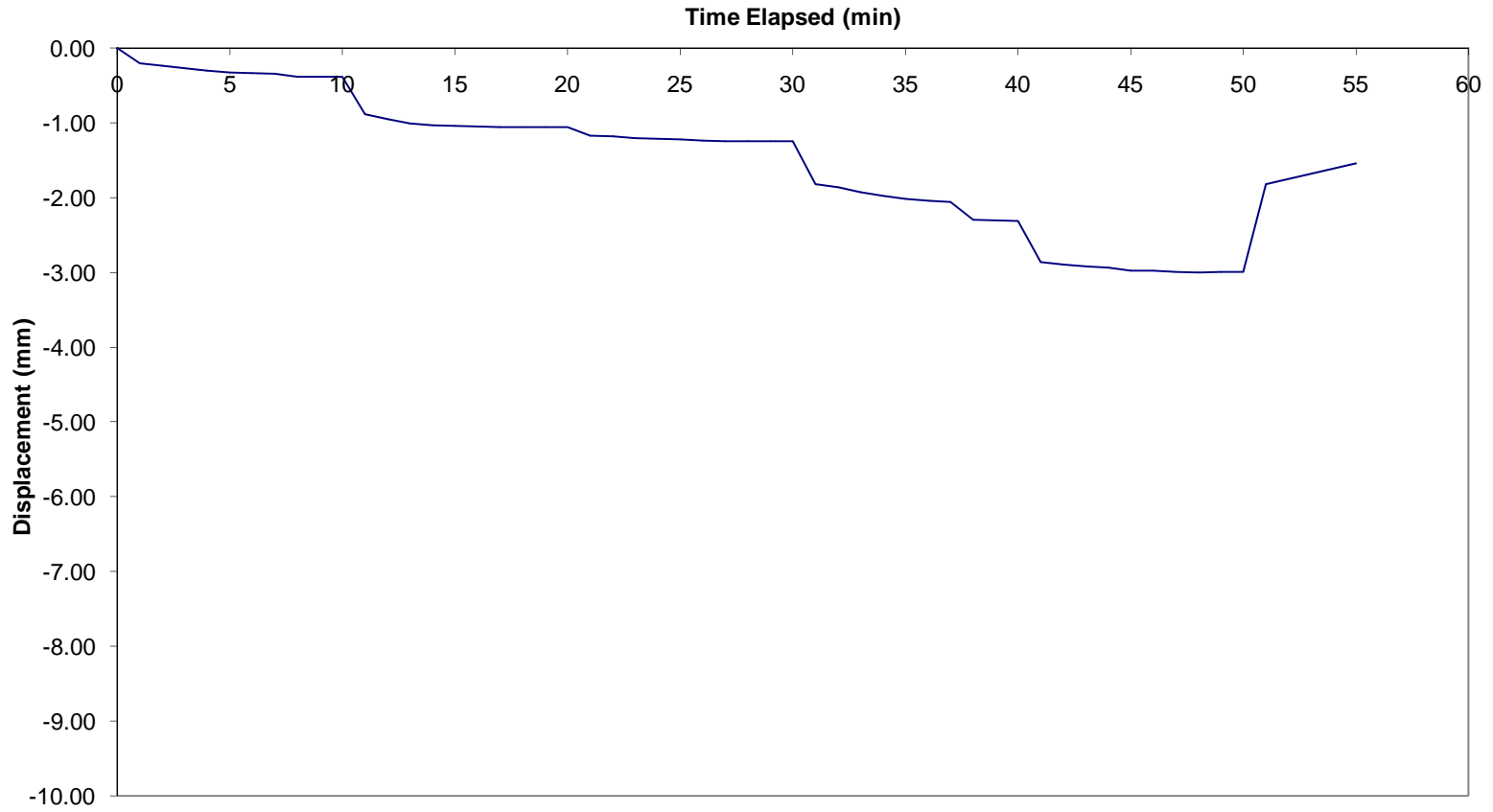
Load vs Settlement Lostock TP13



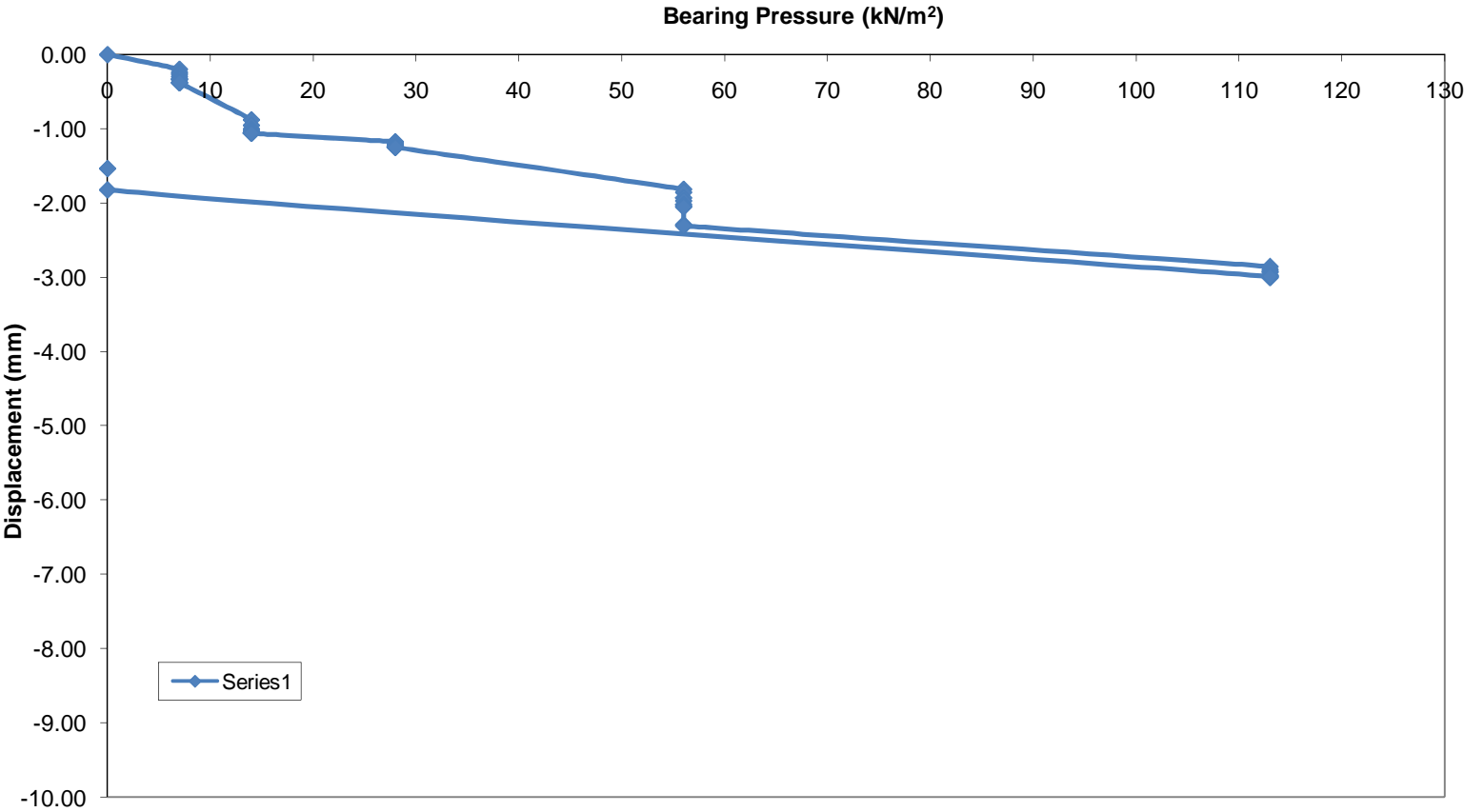
Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.07	0.09	0.03	-0.06	0.00
2	25	0.09	0.14	0.03	-0.09	0.09
3	25	0.12	0.16	0.04	-0.11	0.02
4	25	0.12	0.17	0.06	-0.12	0.01
5	25	0.12	0.18	0.07	-0.12	0.01
6	25	0.12	0.18	0.07	-0.12	0.00
7	25	0.12	0.19	0.07	-0.13	0.00
8	25	0.15	0.19	0.07	-0.14	0.01
9	25	0.15	0.19	0.07	-0.14	0.00
10	25	0.15	0.19	0.07	-0.14	0.00
11	50	0.33	0.44	0.23	-0.33	0.20
12	50	0.33	0.46	0.29	-0.36	0.03
13	50	0.33	0.47	0.34	-0.38	0.02
14	50	0.34	0.48	0.35	-0.39	0.01
15	50	0.34	0.49	0.35	-0.39	0.00
16	50	0.34	0.50	0.35	-0.40	0.00
17	50	0.35	0.50	0.35	-0.40	0.00
18	50	0.35	0.50	0.35	-0.40	0.00
19	50	0.35	0.50	0.35	-0.40	0.00
20	50	0.35	0.50	0.35	-0.40	0.00
21	99	0.99	1.06	0.78	-0.94	0.54
22	99	1.00	1.09	0.79	-0.96	0.02
23	99	1.01	1.11	0.81	-0.98	0.02
24	99	1.02	1.12	0.82	-0.99	0.01
25	99	1.03	1.12	0.84	-1.00	0.01
26	99	1.06	1.12	0.85	-1.01	0.01
27	99	1.07	1.12	0.86	-1.02	0.01
28	99	1.08	1.12	0.86	-1.02	0.00
29	99	1.08	1.12	0.86	-1.02	0.00
30	99	1.08	1.12	0.86	-1.02	0.00
31	198	1.56	1.79	1.29	-1.55	0.53
32	198	1.59	1.84	1.32	-1.58	0.04
33	198	1.68	1.87	1.37	-1.64	0.06
34	198	1.74	1.89	1.41	-1.68	0.04
35	198	1.76	1.94	1.45	-1.72	0.04
36	198	1.78	1.97	1.47	-1.74	0.02
37	198	1.78	1.98	1.49	-1.75	0.01
38	198	2.39	1.98	1.49	-1.95	0.20
39	198	2.41	1.98	1.49	-1.96	0.01
40	198	2.43	1.98	1.49	-1.97	0.01
41	400	2.45	2.79	2.06	-2.43	0.47
42	400	2.47	2.84	2.09	-2.47	0.03

Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	7	0.19	0.31	0.11	-0.20	0.00
2	7	0.24	0.37	0.11	-0.24	0.24
3	7	0.32	0.38	0.11	-0.27	0.03
4	7	0.32	0.42	0.16	-0.30	0.03
5	7	0.33	0.48	0.19	-0.33	0.03
6	7	0.34	0.48	0.19	-0.33	0.00
7	7	0.34	0.50	0.19	-0.34	0.01
8	7	0.45	0.51	0.19	-0.38	0.04
9	7	0.45	0.51	0.19	-0.38	0.00
10	7	0.45	0.51	0.19	-0.38	0.00
11	14	0.87	1.16	0.61	-0.88	0.50
12	14	0.87	1.22	0.77	-0.95	0.07
13	14	0.87	1.24	0.90	-1.00	0.05
14	14	0.90	1.27	0.93	-1.03	0.03
15	14	0.90	1.30	0.93	-1.04	0.01
16	14	0.90	1.32	0.93	-1.05	0.01
17	14	0.93	1.31	0.93	-1.05	0.00
18	14	0.93	1.31	0.93	-1.05	0.00
19	14	0.93	1.32	0.93	-1.06	0.00
20	14	0.93	1.32	0.93	-1.06	0.00
21	28	1.16	1.44	0.92	-1.17	0.12
22	28	1.17	1.45	0.93	-1.18	0.01
23	28	1.19	1.47	0.95	-1.20	0.02
24	28	1.20	1.47	0.96	-1.21	0.01
25	28	1.21	1.47	0.99	-1.22	0.01
26	28	1.25	1.47	1.00	-1.24	0.02
27	28	1.26	1.47	1.01	-1.25	0.01
28	28	1.27	1.47	1.01	-1.25	0.00
29	28	1.27	1.47	1.01	-1.25	0.00
30	28	1.27	1.47	1.01	-1.25	0.00
31	56	1.83	2.10	1.52	-1.82	0.57
32	56	1.87	2.16	1.55	-1.86	0.04
33	56	1.97	2.20	1.61	-1.93	0.07
34	56	2.04	2.22	1.66	-1.97	0.05
35	56	2.07	2.28	1.70	-2.02	0.04
36	56	2.09	2.31	1.73	-2.04	0.03
37	56	2.09	2.33	1.75	-2.06	0.01
38	56	2.81	2.33	1.75	-2.29	0.24
39	56	2.83	2.33	1.75	-2.30	0.01
40	56	2.85	2.33	1.75	-2.31	0.01
41	113	2.88	3.28	2.42	-2.86	0.55
42	113	2.90	3.34	2.46	-2.90	0.04

Time vs Displacement WS4

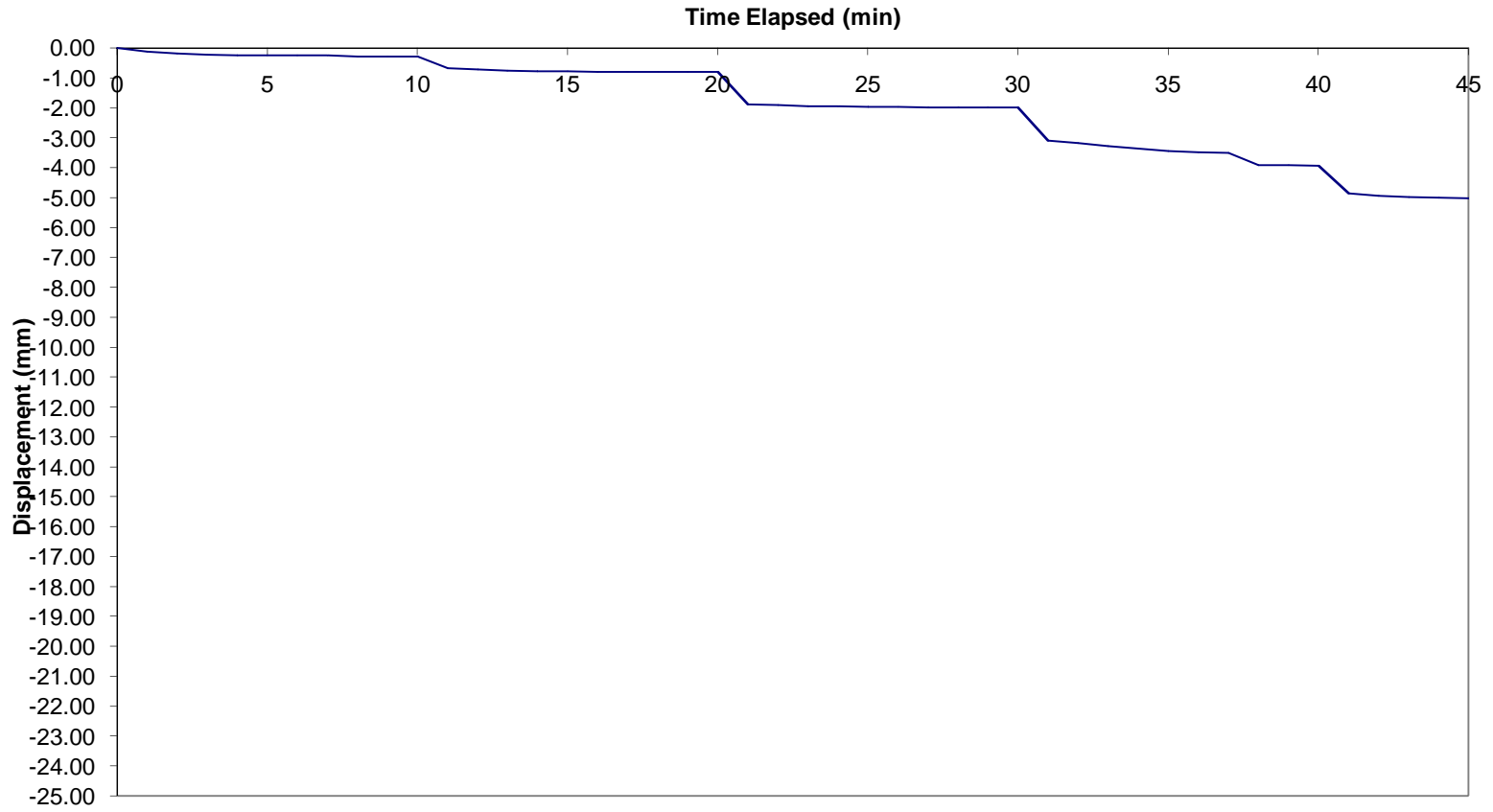


Load vs Settlement Lostock WS4

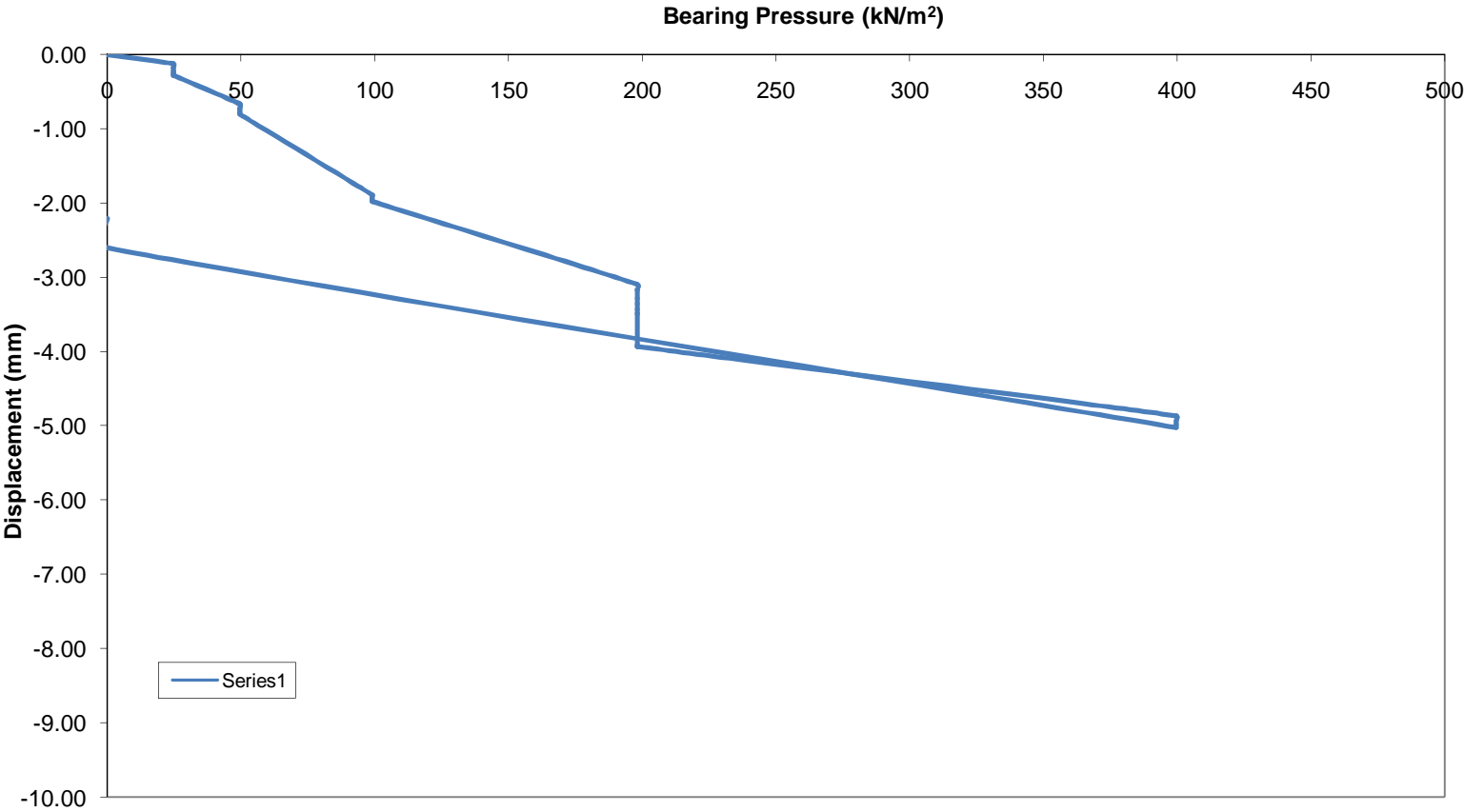


Time (mins)	Pressure (kN/m²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	25	0.14	0.18	0.06	-0.13	0.00
2	25	0.18	0.28	0.06	-0.17	0.17
3	25	0.24	0.32	0.08	-0.21	0.04
4	25	0.24	0.34	0.12	-0.23	0.02
5	25	0.24	0.36	0.14	-0.25	0.01
6	25	0.24	0.36	0.14	-0.25	0.00
7	25	0.24	0.38	0.14	-0.25	0.01
8	25	0.30	0.40	0.14	-0.28	0.03
9	25	0.30	0.40	0.14	-0.28	0.00
10	25	0.30	0.40	0.14	-0.28	0.00
11	50	0.66	0.88	0.46	-0.67	0.39
12	50	0.66	0.92	0.58	-0.72	0.05
13	50	0.66	0.94	0.68	-0.76	0.04
14	50	0.68	0.96	0.70	-0.78	0.02
15	50	0.68	0.98	0.70	-0.79	0.01
16	50	0.68	1.00	0.70	-0.79	0.01
17	50	0.70	1.01	0.70	-0.80	0.01
18	50	0.70	1.02	0.70	-0.81	0.00
19	50	0.70	1.02	0.70	-0.81	0.00
20	50	0.70	1.02	0.70	-0.81	0.00
21	99	1.98	2.12	1.56	-1.89	1.08
22	99	1.98	2.18	1.58	-1.91	0.03
23	99	1.98	2.22	1.62	-1.94	0.03
24	99	1.98	2.24	1.64	-1.95	0.01
25	99	1.98	2.24	1.68	-1.97	0.01
26	99	1.98	2.24	1.70	-1.97	0.01
27	99	1.98	2.24	1.72	-1.98	0.01
28	99	1.98	2.24	1.72	-1.98	0.00
29	99	1.98	2.24	1.72	-1.98	0.00
30	99	1.98	2.24	1.72	-1.98	0.00
31	198	3.12	3.58	2.58	-3.09	1.11
32	198	3.18	3.68	2.64	-3.17	0.07
33	198	3.36	3.74	2.74	-3.28	0.11
34	198	3.48	3.78	2.82	-3.36	0.08
35	198	3.52	3.88	2.90	-3.43	0.07
36	198	3.56	3.94	2.94	-3.48	0.05
37	198	3.56	3.96	2.98	-3.50	0.02
38	198	4.78	3.96	2.98	-3.91	0.41
39	198	4.82	3.96	2.98	-3.92	0.01
40	198	4.86	3.96	2.98	-3.93	0.01
41	400	4.90	5.58	4.12	-4.87	0.93
42	400	4.94	5.68	4.18	-4.93	0.07

Time vs Displacement W/S5

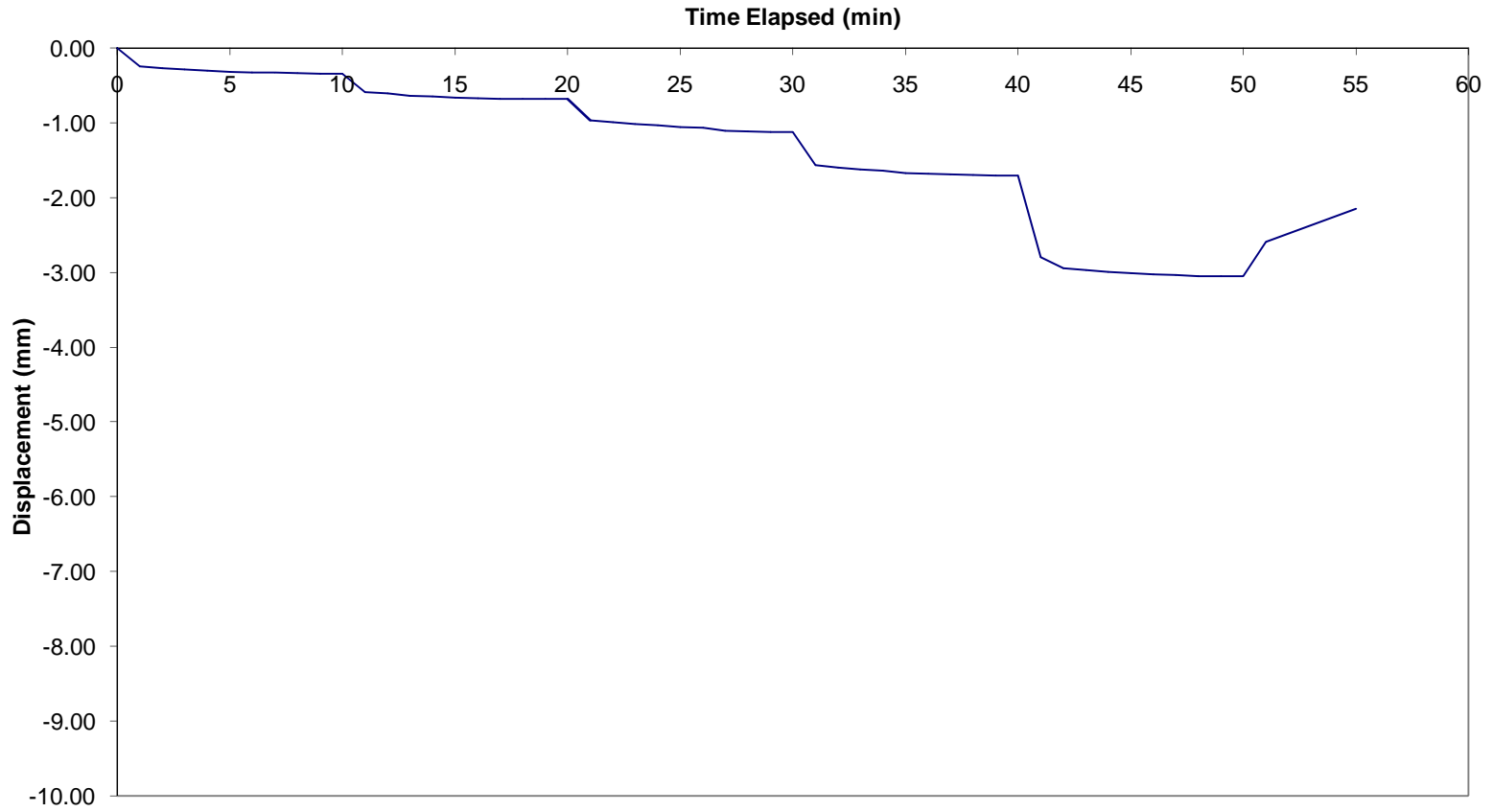


Load vs Settlement Lostock W/S5

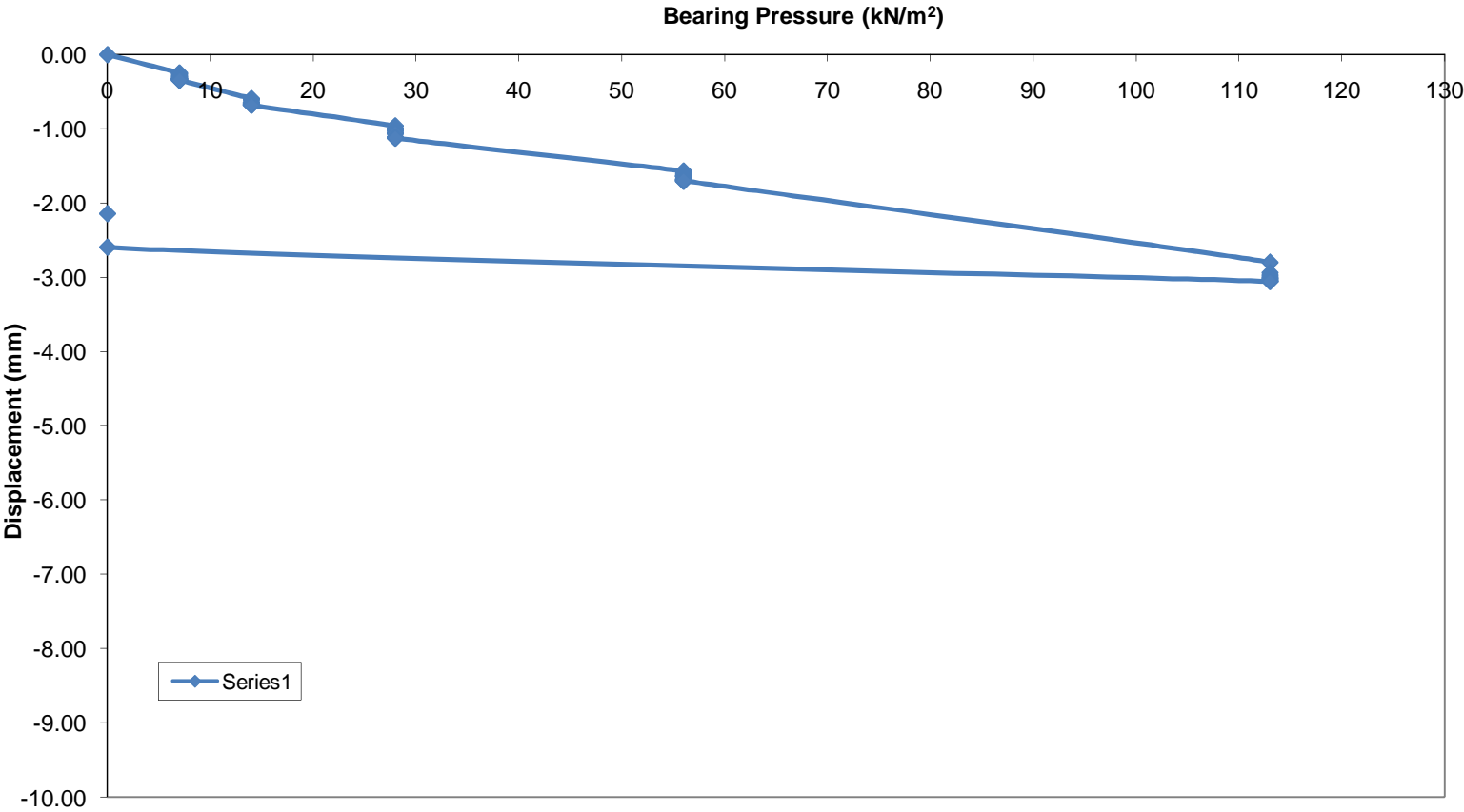


Time (mins)	Pressure (kN/m ²)	Disp 1 (mm)	Disp 2 (mm)	Disp 3 (mm)	Displacement (mm)	Movement (mm)
0	0	0.00	0.00	0.00	0.00	0.00
1	7	0.22	0.49	0.03	-0.25	0.00
2	7	0.23	0.53	0.04	-0.27	0.27
3	7	0.25	0.56	0.05	-0.29	0.02
4	7	0.26	0.59	0.06	-0.30	0.02
5	7	0.27	0.62	0.07	-0.32	0.02
6	7	0.28	0.62	0.08	-0.33	0.01
7	7	0.28	0.62	0.09	-0.33	0.00
8	7	0.28	0.62	0.10	-0.33	0.00
9	7	0.28	0.66	0.10	-0.35	0.01
10	7	0.28	0.66	0.10	-0.35	0.00
11	14	0.34	0.98	0.45	-0.59	0.24
12	14	0.35	0.99	0.49	-0.61	0.02
13	14	0.36	0.99	0.57	-0.64	0.03
14	14	0.36	0.99	0.59	-0.65	0.01
15	14	0.37	1.00	0.62	-0.66	0.02
16	14	0.38	1.00	0.64	-0.67	0.01
17	14	0.38	1.00	0.65	-0.68	0.00
18	14	0.38	1.00	0.65	-0.68	0.00
19	14	0.38	1.00	0.65	-0.68	0.00
20	14	0.38	1.01	0.65	-0.68	0.00
21	28	0.77	1.23	0.89	-0.96	0.28
22	28	0.78	1.26	0.94	-0.99	0.03
23	28	0.79	1.29	0.97	-1.02	0.02
24	28	0.79	1.32	0.98	-1.03	0.01
25	28	0.80	1.37	0.99	-1.05	0.02
26	28	0.80	1.39	1.01	-1.07	0.01
27	28	0.80	1.43	1.10	-1.11	0.04
28	28	0.80	1.44	1.11	-1.12	0.01
29	28	0.80	1.45	1.12	-1.12	0.01
30	28	0.80	1.45	1.13	-1.13	0.00
31	56	1.36	1.89	1.45	-1.57	0.44
32	56	1.38	1.91	1.51	-1.60	0.03
33	56	1.40	1.91	1.56	-1.62	0.02
34	56	1.42	1.91	1.59	-1.64	0.02
35	56	1.46	1.90	1.65	-1.67	0.03
36	56	1.47	1.90	1.67	-1.68	0.01
37	56	1.48	1.90	1.69	-1.69	0.01
38	56	1.48	1.90	1.71	-1.70	0.01
39	56	1.48	1.92	1.72	-1.71	0.01
40	56	1.48	1.92	1.71	-1.70	0.00
41	113	2.50	3.88	2.02	-2.80	1.10
42	113	2.67	4.04	2.11	-2.94	0.14

Time vs Displacement WS7



Load vs Settlement Lostock WS7



Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix E

Geotechnical Laboratory Testing

Summary of Laboratory Sample Descriptions

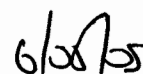
Hole Number	Sample Number	Type	Depth (m)	Description of Sample*
BH1	2	B	0.50-1.00	Dark brown clayey silty sandy GRAVEL.
BH1	5	U	2.00-2.45	Brown slightly gravelly clayey SILT.
BH1	10	U	4.80-5.25	Reddish brown gravelly sandy silty CLAY.
BH4	14	U	4.40-4.85	Brown gravelly silty CLAY.
BH4	19	U	7.50-7.95	Reddish brown silty CLAY.
BH5	1+2	B	0.50-1.00	Brown sandy gravelly silty CLAY.
BH5	11	U	3.40-3.85	Brown silty CLAY.
BH5	20	U	8.00-8.45	Reddish brown silty CLAY.
BH6	22	U	8.70-9.15	Brown gravelly silty CLAY.
BH7	1	B	0.70-1.20	Reddish brown gravelly sandy silty CLAY.
BH8	2	B	0.50-1.00	Brown gravelly silty CLAY.
BH8	9	U	3.30-3.75	Brown silty CLAY.
BH8	25	U	14.00-14.45	Brown gravelly silty CLAY.
BH10	2	B	1.20-1.70	Brown gravelly silty CLAY.
BH10	5	U	1.80-2.25	Brown gravelly silty CLAY.
BH10	9	U	4.00-4.45	Brown gravelly silty CLAY.
BH14	1	B	0.80-1.20	Reddish brown gravelly sandy silty CLAY.
BH14	6	U	3.00-3.45	Brown gravelly silty CLAY.
BH14	19	U	9.00-9.45	Brown gravelly silty CLAY.
BH16	4	B	1.20-1.90	Greyish brown gravelly silty CLAY.
BH16	6	U	2.00-2.45	Brown gravelly SAND.
BH16	25	U	14.00-14.45	Reddish brown gravelly sandy silty CLAY.
TP2			0.20	Dark brown clayey silty sandy GRAVEL.
TP3			0.90-1.20	Dark brown clayey silty sandy GRAVEL.
TP5			0.70-1.00	Reddish brown gravelly sandy silty CLAY.
TP6			3.30	Dark brown clayey silty sandy GRAVEL.
TP8			0.30-1.00	Dark brown clayey silty sandy GRAVEL.
TP10			0.90	Brown gravelly silty CLAY.
TP11			1.20	Reddish brown gravelly sandy silty CLAY.
TP12			1.00	Reddish brown gravelly sandy silty CLAY.
TP13			1.50	Dark brown clayey silty sandy GRAVEL.

Note: Results on this table are in summary format and may not meet the requirements of the relevant standards, additional information is held by the laboratory


Checked by


Date


Approved by


Date



Lostock Works Cheshire

Contract No.:
7773/09
Client ref:
LE10104/VE059592

Summary of Soil Classification Tests

BS 1377:Part 2:1990

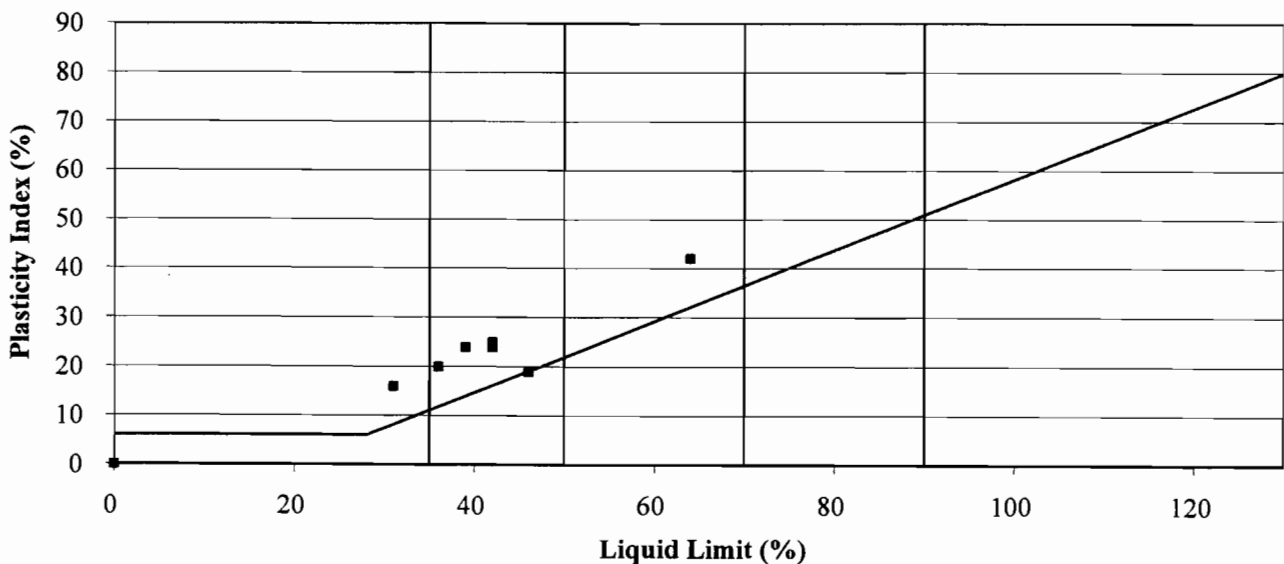
Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
BH1/5	U	2.00 - 2.45	25	46	27	19	50	MI Intermediate Plasticity
BH1/10	U	4.80 - 5.25	11					
BH4/14	U	4.40 - 4.85	17	42	17	25	95	CI Intermediate Plasticity
BH4/19	U	7.50 - 7.95	18					
BH5/1+2	B	0.50 - 1.00	14					
BH5/11	U	3.40 - 3.85	18	64	22	42	99	CH High Plasticity
BH5/20	U	8.00 - 8.45	19					
BH6/22	U	8.70 - 9.15	16	42	18	24	90	CI Intermediate Plasticity
BH8/9	U	3.30 - 3.75	21	31	15	16	90	CL Low Plasticity
BH8/25	U	14.00 - 14.45	29					
BH10/5	U	1.80 - 2.25	23	39	15	24	96	CI Intermediate Plasticity
BH14/6	U	3.00 - 3.45	21	36	16	20	95	CI Intermediate Plasticity
BH14/19	U	9.00 - 9.45	16					
BH16/6	U	2.00 - 2.45	17		NP		90	
BH16/25	U	14.00 - 14.45	11					

Symbols:

NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



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6/8/09
Date

[Signature]
Approved by

6/8/09
Date



LABORATORY TESTING SERVICES LIMITED

Lostock Works Cheshire

Contract No.:
7772/09
Client Ref No:
VE059592

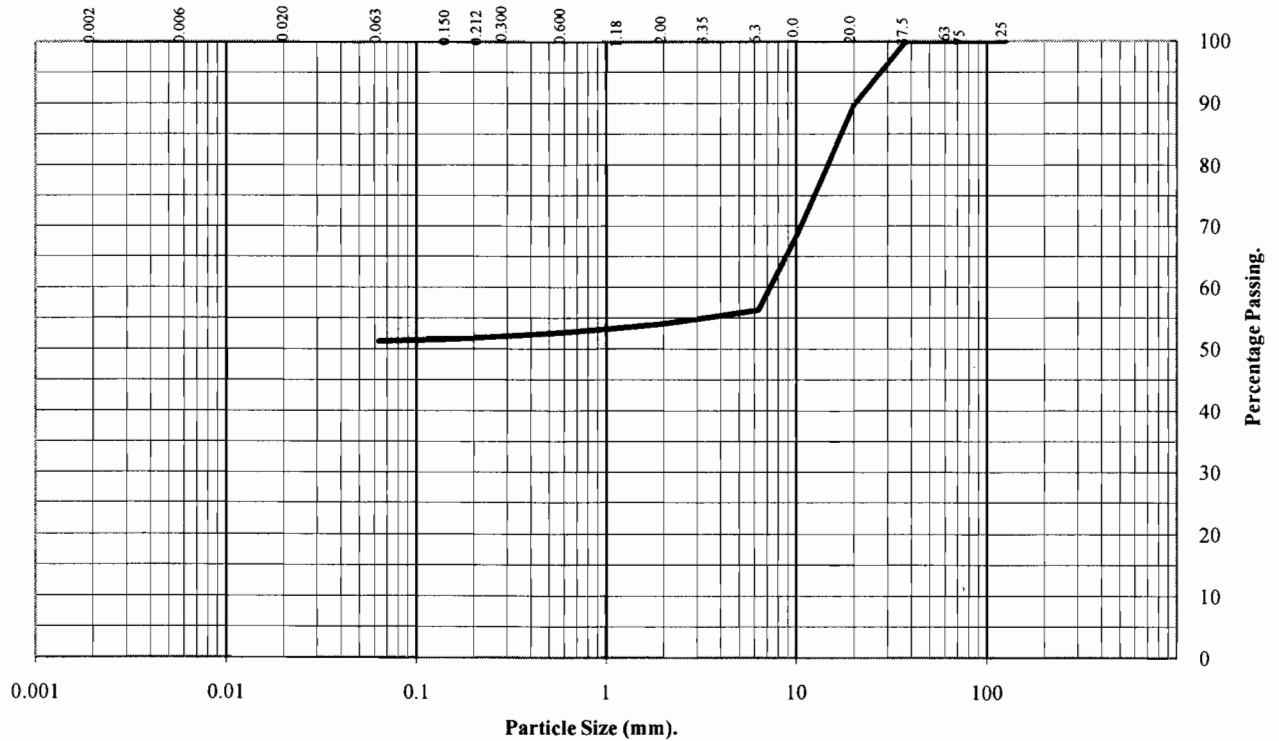


PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH1/2** Type: **B** Depth (m): **0.50 to 1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	90
10	68
6.3	56
3.35	55
2.00	54
1.18	53
0.60	53
0.30	52
0.21	52
0.15	52
0.06	51

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	46
Sand	3
Silt and Clay	51

Remarks:

#- not determined

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Date

[Signature]
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Date



Lostock Works Cheshire

Contract No.:
7772/09
Client Ref No:
10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

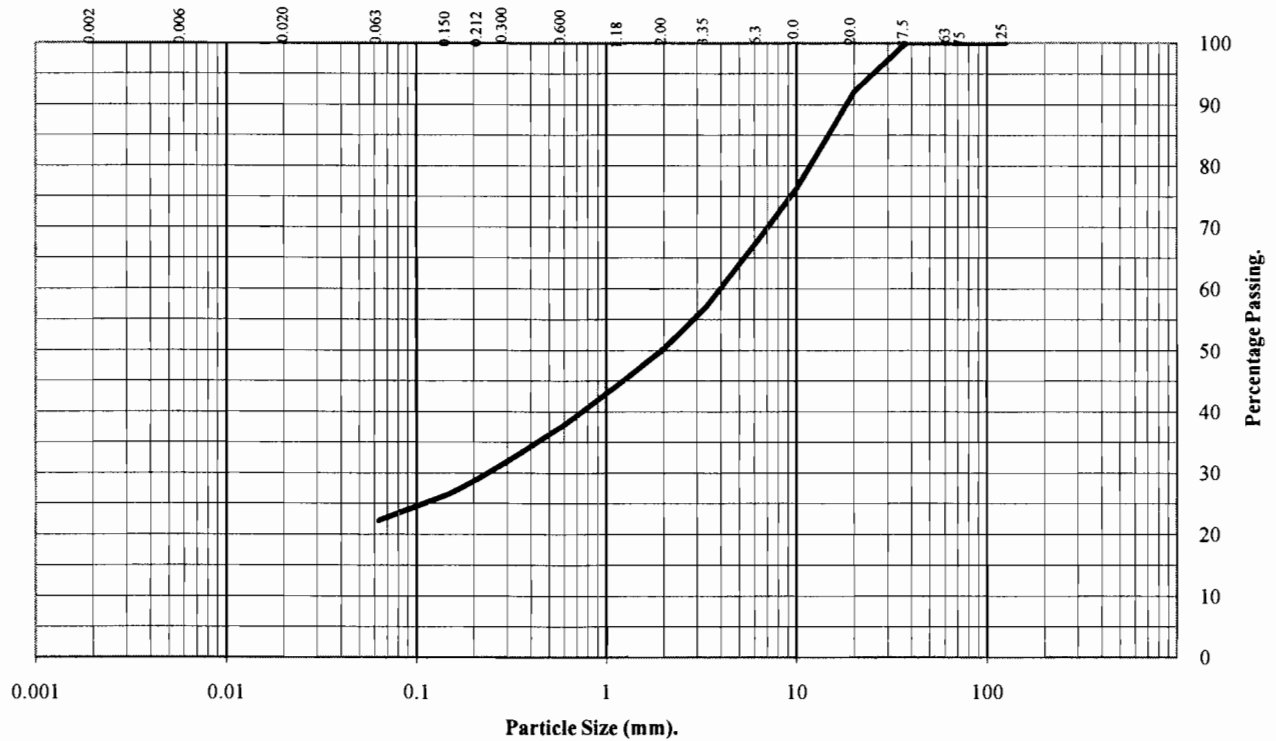
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH5/1+2**

Type: **B**

Depth (m): **0.50 to 1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	92
10	76
6.3	68
3.35	57
2.00	50
1.18	45
0.60	38
0.30	32
0.21	29
0.15	27
0.06	22

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	50
Sand	28
Silt and Clay	22

Remarks:

#- not determined

Checked by *[Signature]* Date *6/5/09*

Approved by *[Signature]* Date *6/5/09*



LABORATORY TESTING SERVICES LIMITED
GEO/104-2 Dec 05

Lostock Works Cheshire

Issue No 1.2

Contract No.: 7772/09
Client Ref No: 10104/VE059!

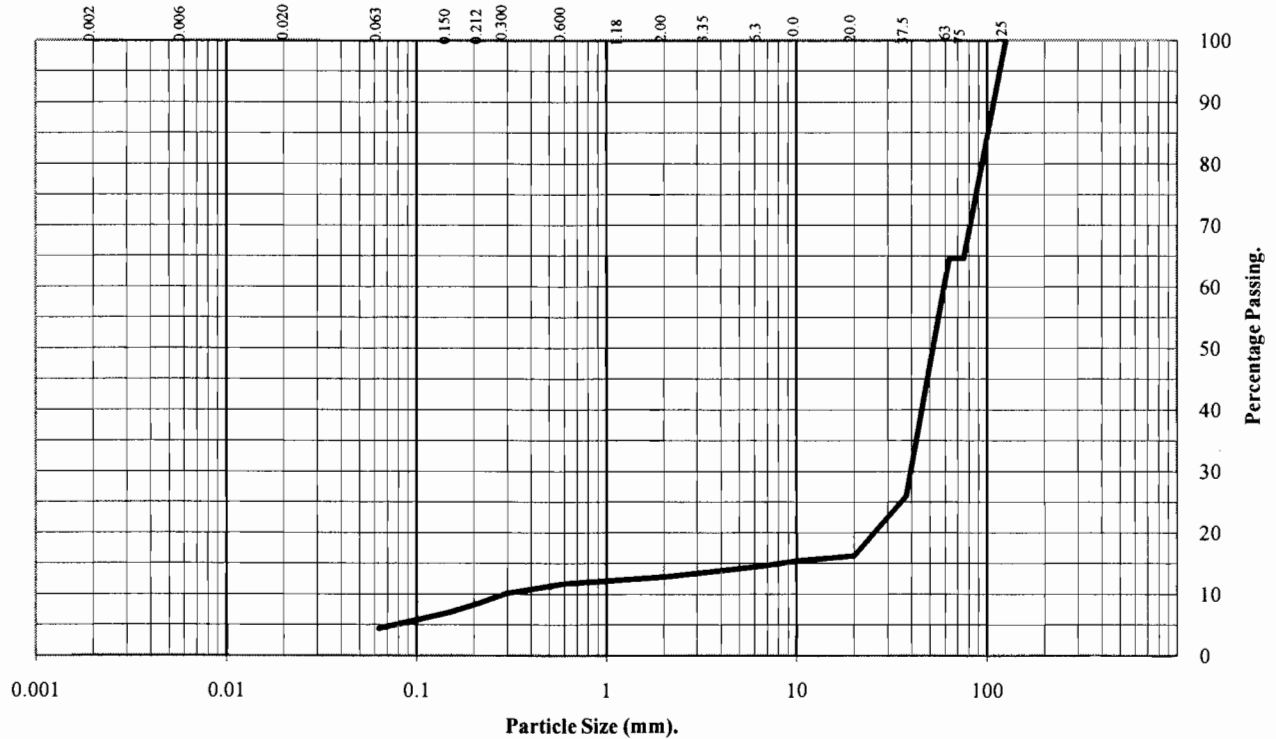


PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH7/1** Type: **B** Depth (m): **0.70** to **1.20**




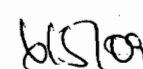
BS Test Sieve	Percentage Passing
125	100
75	65
63	65
38	26
20	16
10	15
6.3	15
3.35	14
2.00	13
1.18	12
0.60	12
0.30	10
0.21	9
0.15	7
0.06	4


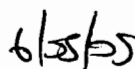
Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	35
Gravel	52
Sand	9
Silt and Clay	4

Remarks:

#- not determined


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 Date


 Approved by

 Date



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GEO/104-2 Dec 05

Lostock Works Cheshire

Issue No 1.2

Contract No.:
7772/09
Client Ref No:
10104/VE059:

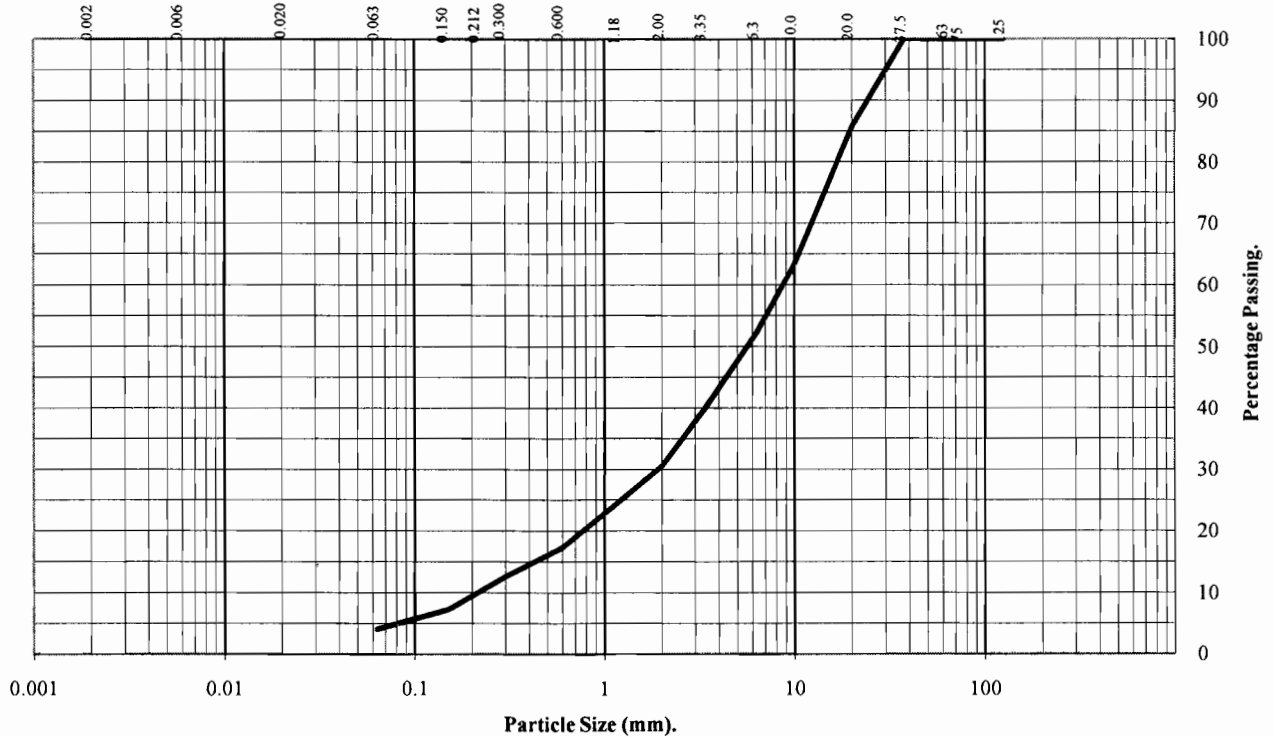


PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH8/2** Type: **B** Depth (m): **0.50** to **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	86
10	64
6.3	52
3.35	40
2.00	31
1.18	25
0.60	17
0.30	13
0.21	10
0.15	7
0.06	4

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	69
Sand	27
Silt and Clay	4

Remarks:
#- not determined

[Signature]
Checked by **W. Stone**
Date

[Signature]
Approved by **W. Stone**
Date



LABORATORY TESTING SERVICES LIMITED
GEO/104-2 Dec 05

Lostock Works Cheshire

Issue No 1.2

Contract No.:
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Client Ref No:
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PARTICLE SIZE DISTRIBUTION TEST

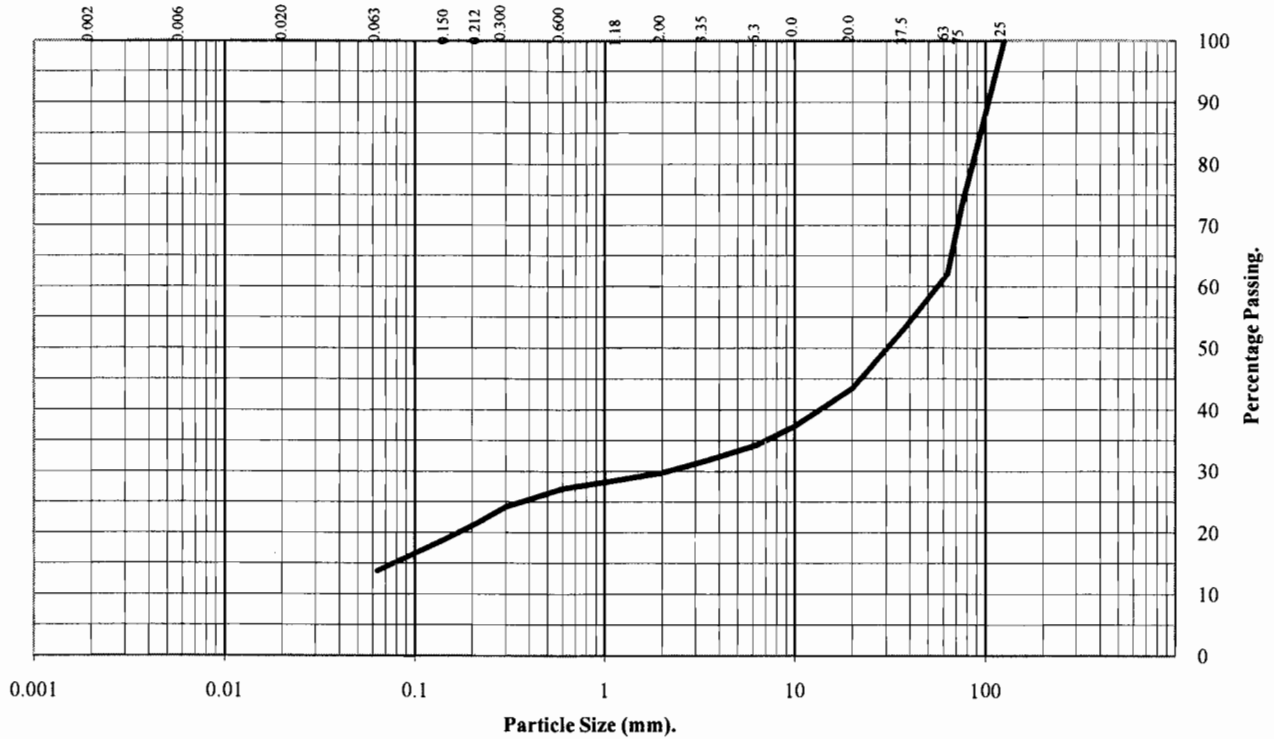
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH14/1**

Type: **B**

Depth (m): **0.80 to 1.20**




BS Test Sieve	Percentage Passing
125	100
75	73
63	62
38	53
20	43
10	37
6.3	34
3.35	32
2.00	30
1.18	29
0.60	27
0.30	24
0.21	22
0.15	19
0.06	14


Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	38
Gravel	32
Sand	16
Silt and Clay	14

Remarks:

#- not determined


 Checked by _____
 Date **6/10/09**


 Approved by _____
 Date **6/18/09**



Lostock Works Cheshire

Contract No.: 7772/09
Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

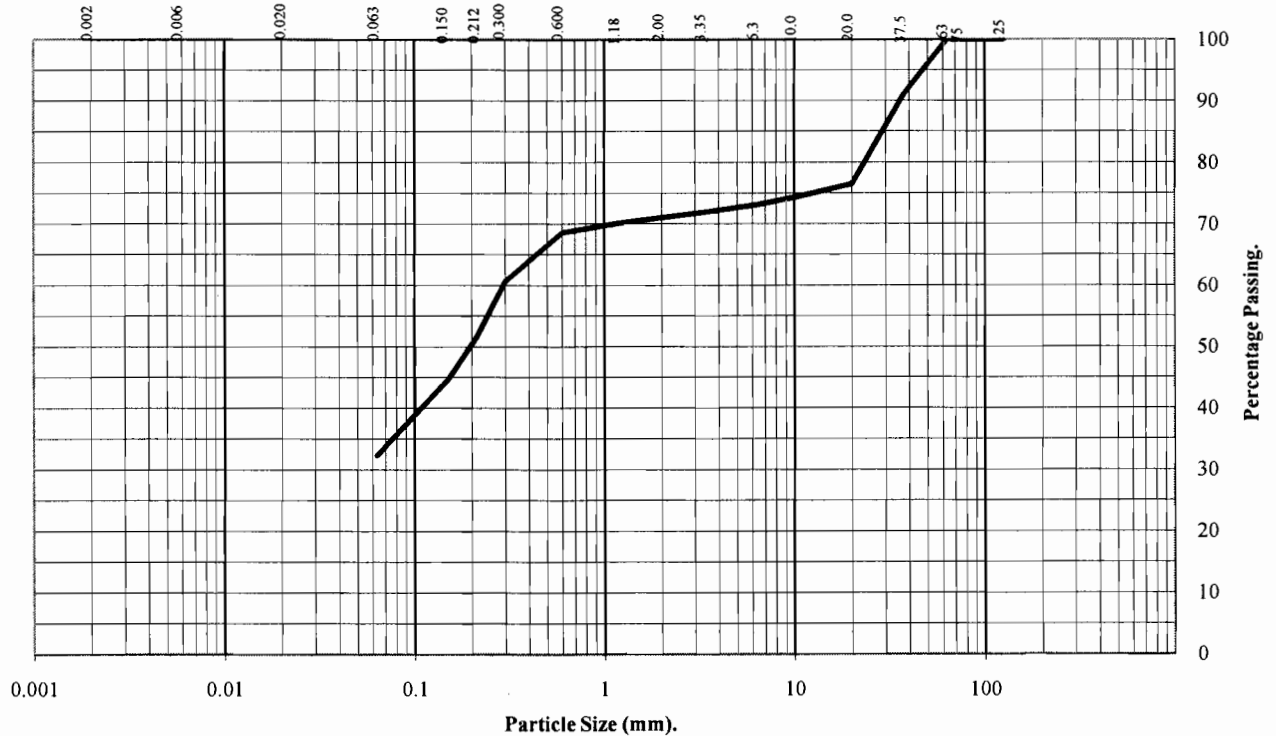
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH16/4**

Type: **B**

Depth (m): **1.20 to 1.90**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	91
20	76
10	74
6.3	73
3.35	72
2.00	71
1.18	70
0.60	69
0.30	61
0.21	52
0.15	45
0.06	32

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	29
Sand	39
Silt and Clay	32

Remarks:

#- not determined

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Approved by *[Signature]* Date *01/10/09*



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GEO/104-2 Dec 05

Lostock Works Cheshire

Issue No 1.2

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PARTICLE SIZE DISTRIBUTION TEST

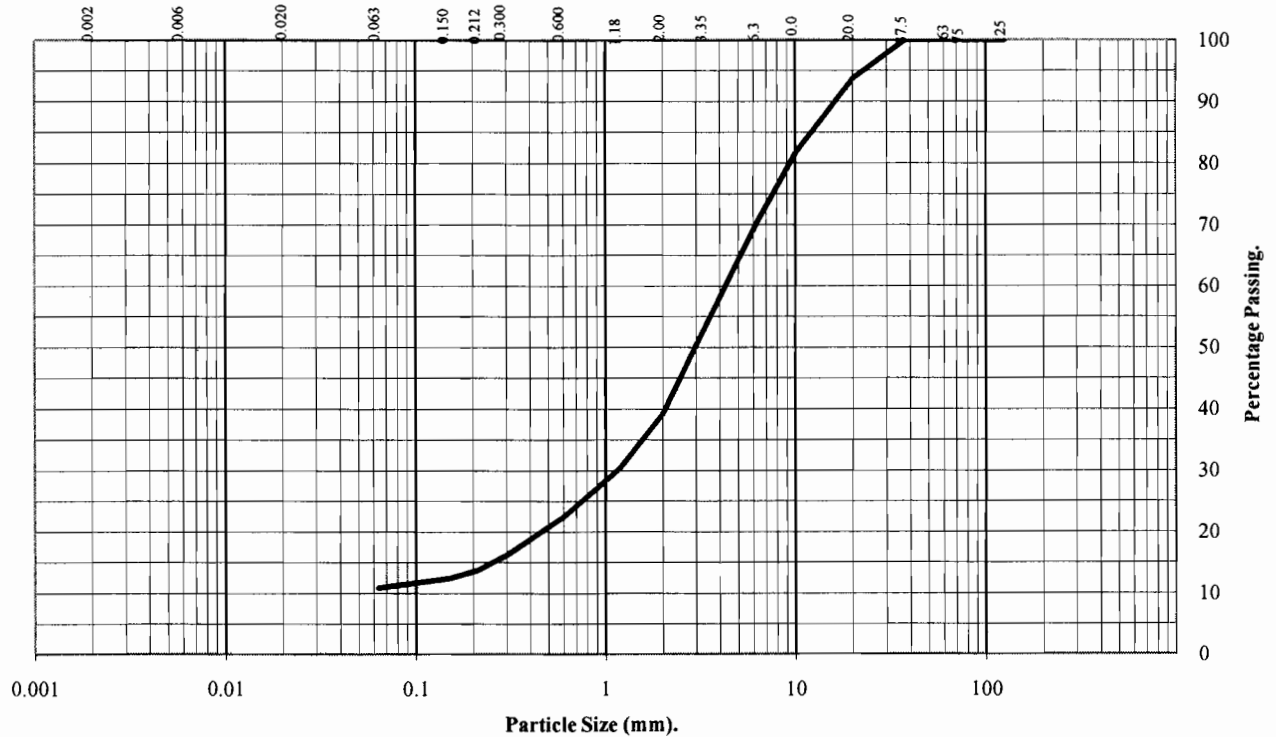
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number:

TP2

Depth (m): 0.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	94
10	82
6.3	71
3.35	53
2.00	39
1.18	30
0.60	23
0.30	16
0.21	14
0.15	12
0.06	11

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	61
Sand	28
Silt and Clay	11

Remarks:

#- not determined

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[Signature] 6/5/09
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 GEO/104-2 Dec 05

Lostock Works Cheshire

Contract No.: 7772/09
 Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

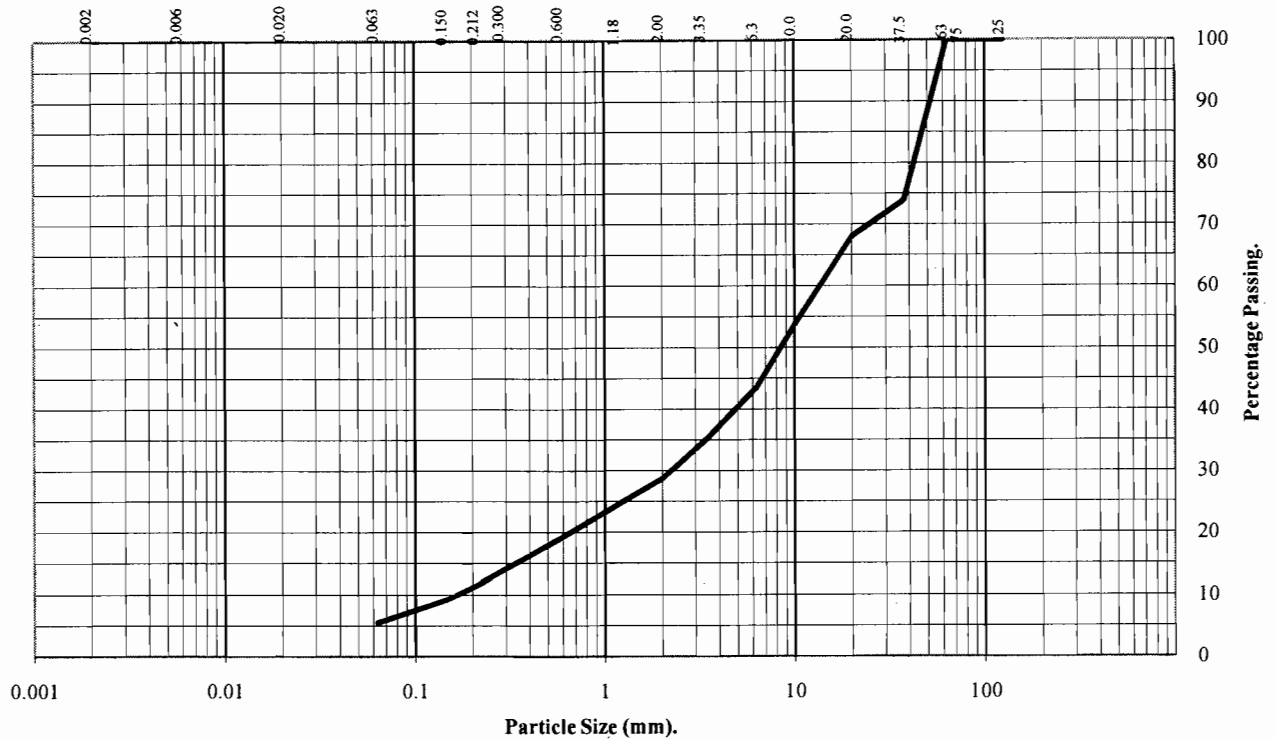
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number:

TP3

Depth (m): 0.90 to 1.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	74
20	68
10	54
6.3	44
3.35	35
2.00	29
1.18	25
0.60	19
0.30	14
0.21	12
0.15	9
0.06	6

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	71
Sand	23
Silt and Clay	6

Remarks:

#- not determined

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Date

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Approved by
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Date



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Client Ref No:
10104/VE059!



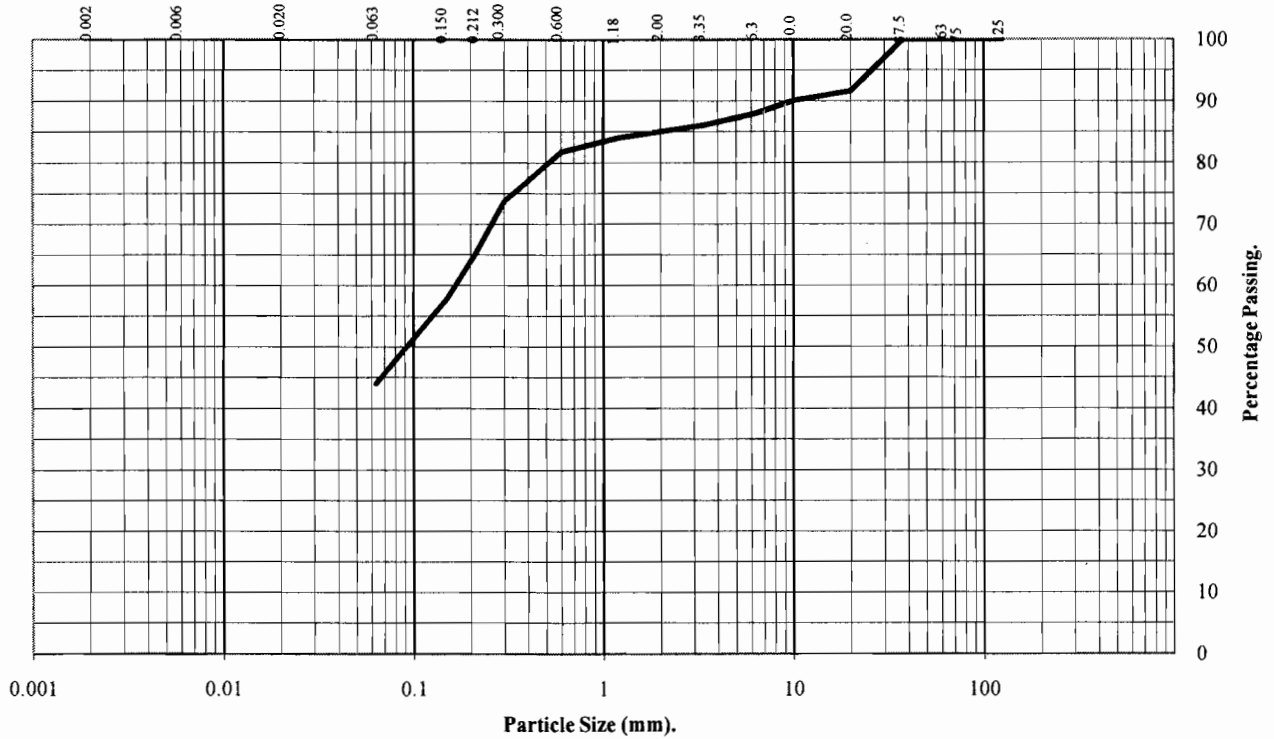
PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: TP5

Depth (m): 0.70 to 1.00




BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	92
10	90
6.3	88
3.35	86
2.00	85
1.18	84
0.60	82
0.30	74
0.21	65
0.15	58
0.06	44


Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#


Soil Fraction	Total Percentage
Cobbles	0
Gravel	15
Sand	41
Silt and Clay	44


Remarks:

#- not determined


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 Date

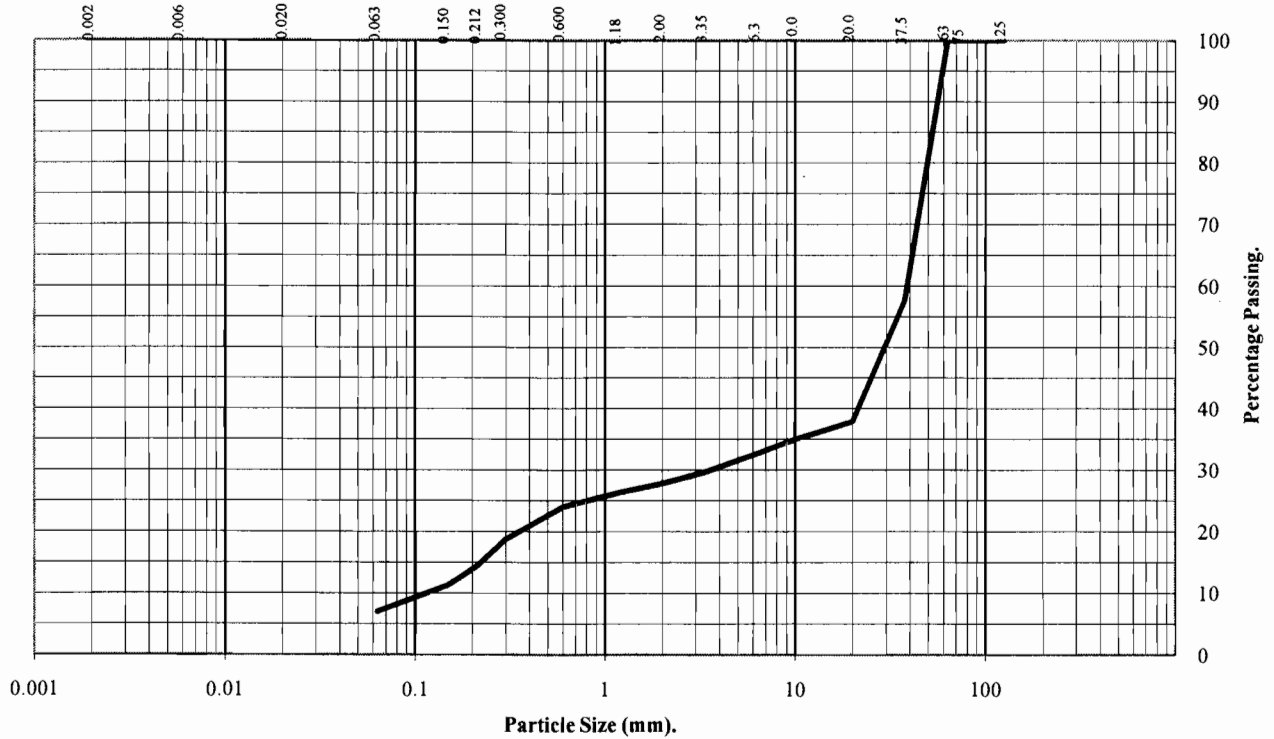
PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: TP6

Depth (m): 3.30



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	58
20	38
10	35
6.3	33
3.35	30
2.00	28
1.18	26
0.60	24
0.30	19
0.21	14
0.15	11
0.06	7

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	72
Sand	21
Silt and Clay	7

Remarks:

#- not determined

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GEO/104-2 Dec 05

Lostock Works Cheshire

Issue No 1.2

Contract No.: 7772/09
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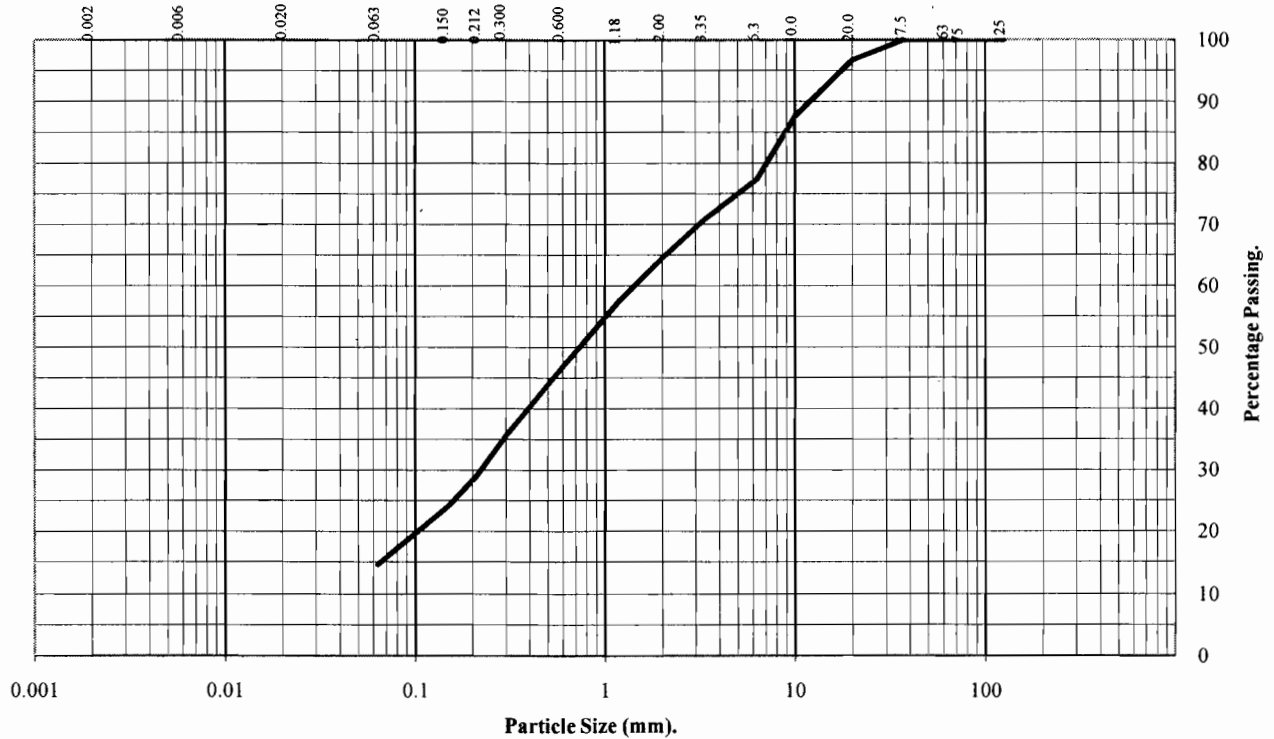
PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: TP8

Depth (m): 0.30 to 1.00



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	97
10	88
6.3	77
3.35	71
2.00	65
1.18	57
0.60	47
0.30	36
0.21	29
0.15	24
0.06	15

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	35
Sand	50
Silt and Clay	15

Remarks:

#- not determined

[Signature]
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6/5/09
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GEO/104-2 Dec 05

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Issue No 1.2

Contract No.: 7772/09
Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

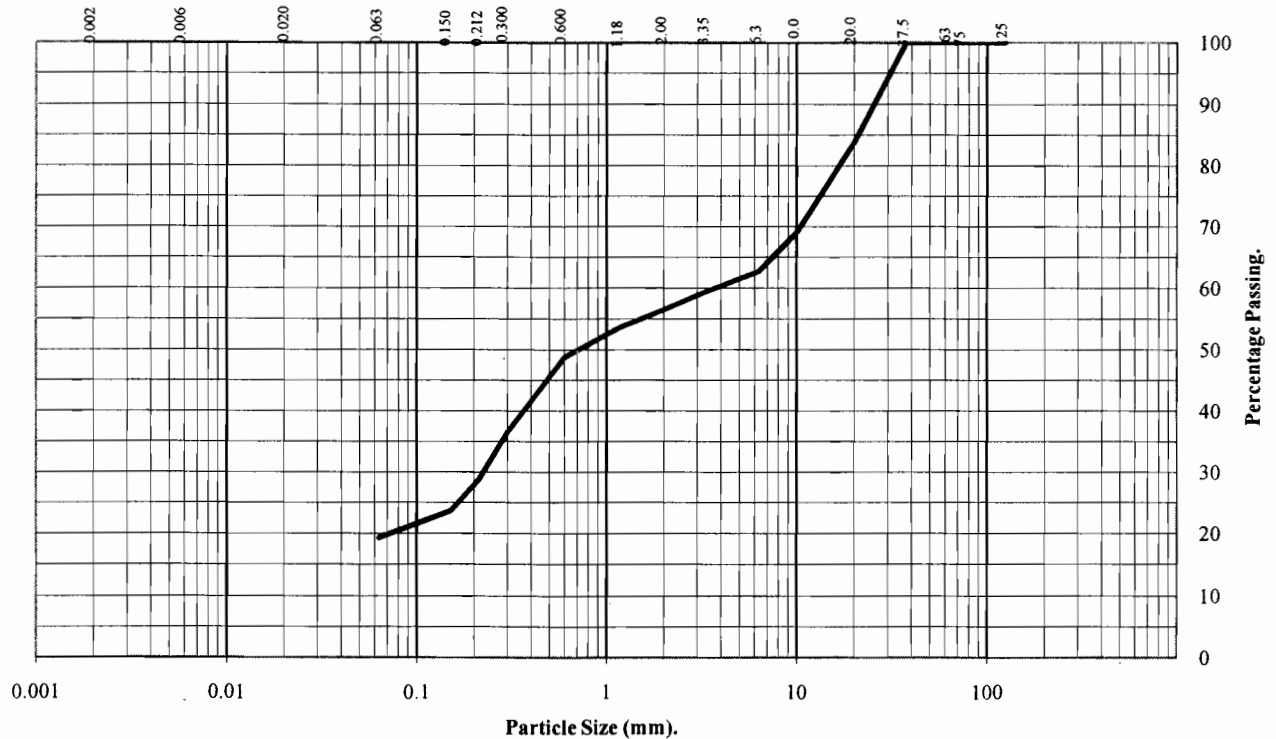
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number:

TP10

Depth (m): 0.90



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	84
10	69
6.3	63
3.35	59
2.00	57
1.18	54
0.60	49
0.30	37
0.21	29
0.15	24
0.06	19

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	43
Sand	38
Silt and Clay	19

Remarks:

#- not determined

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Client Ref No:
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PARTICLE SIZE DISTRIBUTION TEST

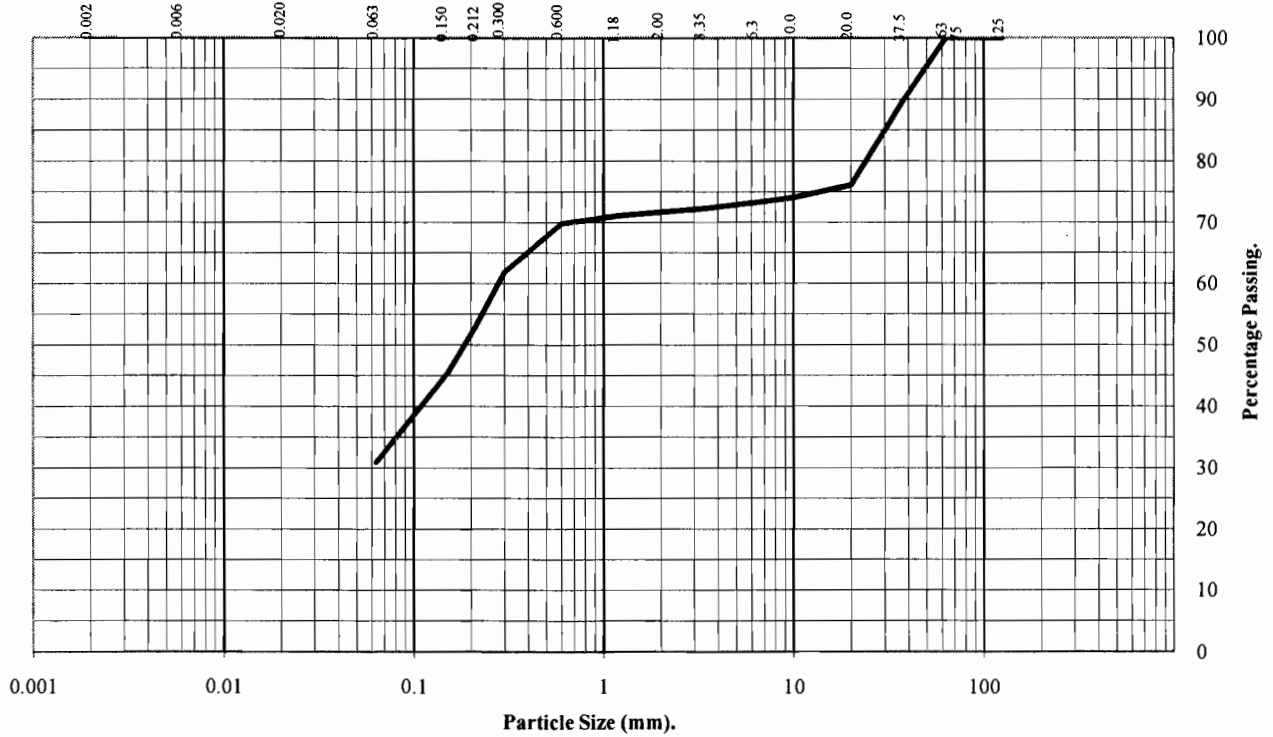
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number:

TP11

Depth (m): **1.20**




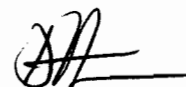
BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	90
20	76
10	74
6.3	73
3.35	72
2.00	72
1.18	71
0.60	70
0.30	62
0.21	53
0.15	45
0.06	31

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	28
Sand	41
Silt and Clay	31

Remarks:
#- not determined

 6/5/09
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PARTICLE SIZE DISTRIBUTION TEST

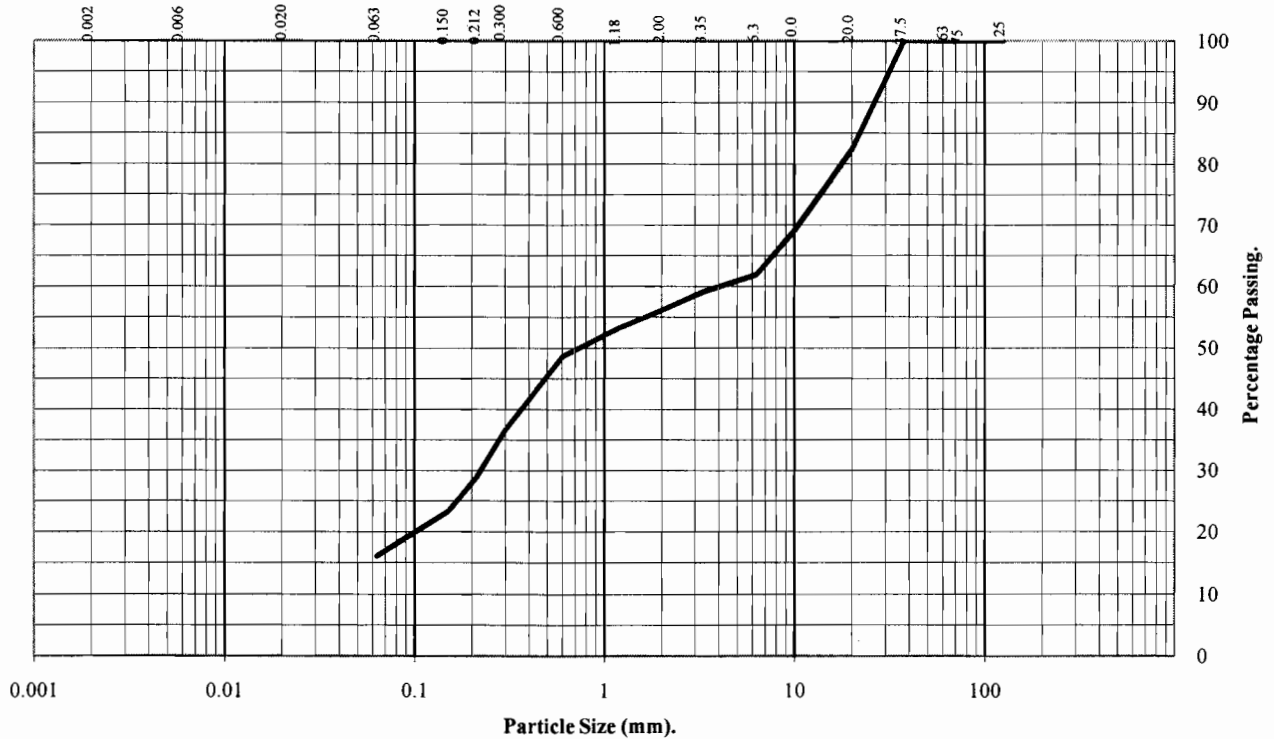
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number:

TP12

Depth (m): 1.00



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	82
10	69
6.3	62
3.35	59
2.00	56
1.18	53
0.60	49
0.30	37
0.21	29
0.15	23
0.06	16

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#


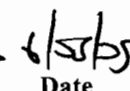
Soil Fraction	Total Percentage
Cobbles	0
Gravel	44
Sand	40
Silt and Clay	16

Remarks:

#- not determined


 Checked by

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 Date



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GEO/104-2 Dec 05

Lostock Works Cheshire

Contract No.: 7772/09
Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

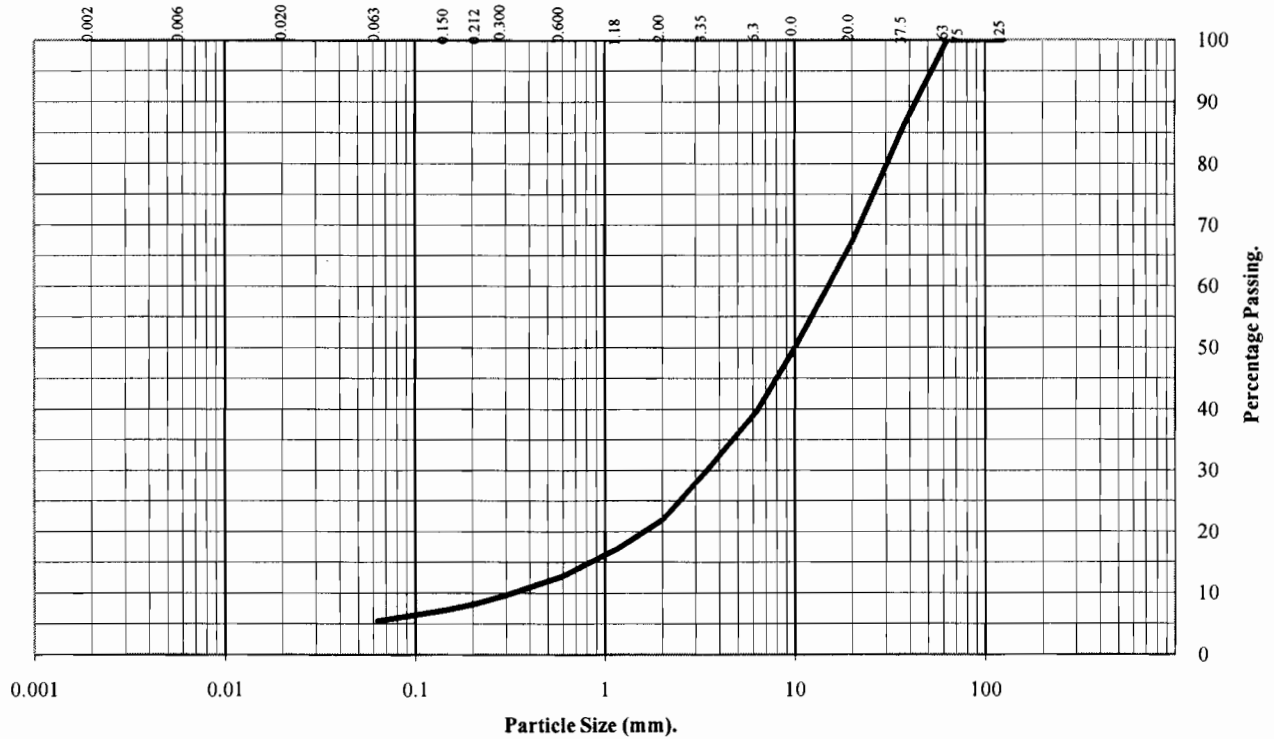
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number:

TP13

Depth (m): 1.50




BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	86
20	67
10	50
6.3	40
3.35	30
2.00	22
1.18	17
0.60	13
0.30	10
0.21	8
0.15	7
0.06	5

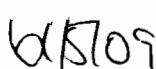
Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#


Soil Fraction	Total Percentage
Cobbles	0
Gravel	78
Sand	17
Silt and Clay	5

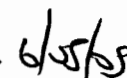
Remarks:

#- not determined


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Lostock Works Cheshire

Issue No 1.2

Contract No.: 7772/09
Client Ref No: 10104/VE059!

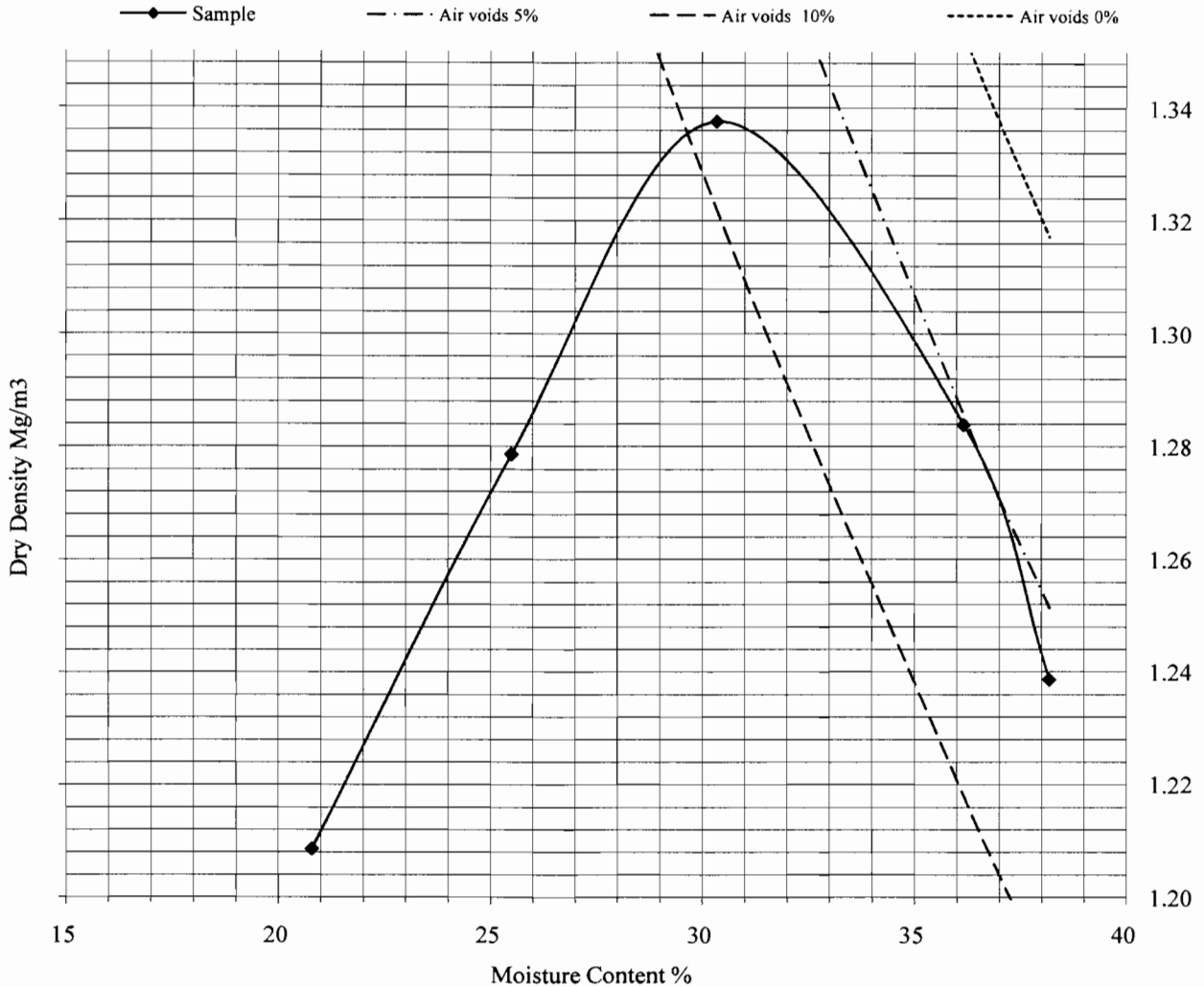


Page of

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990



Hole Number: **BH1** Sample Number: **B2** Depth (m): **0.50-1.00**


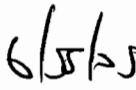


Initial Moisture Content:	36	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.34	Material Retained on 20.0 mm Test Sieve (%):	10
Optimum Moisture Content (%):	30	Sample Preparation Clause :	3.2.4.2

* - not included in laboratory scope of accreditation

Remarks



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Lostock Works Cheshire

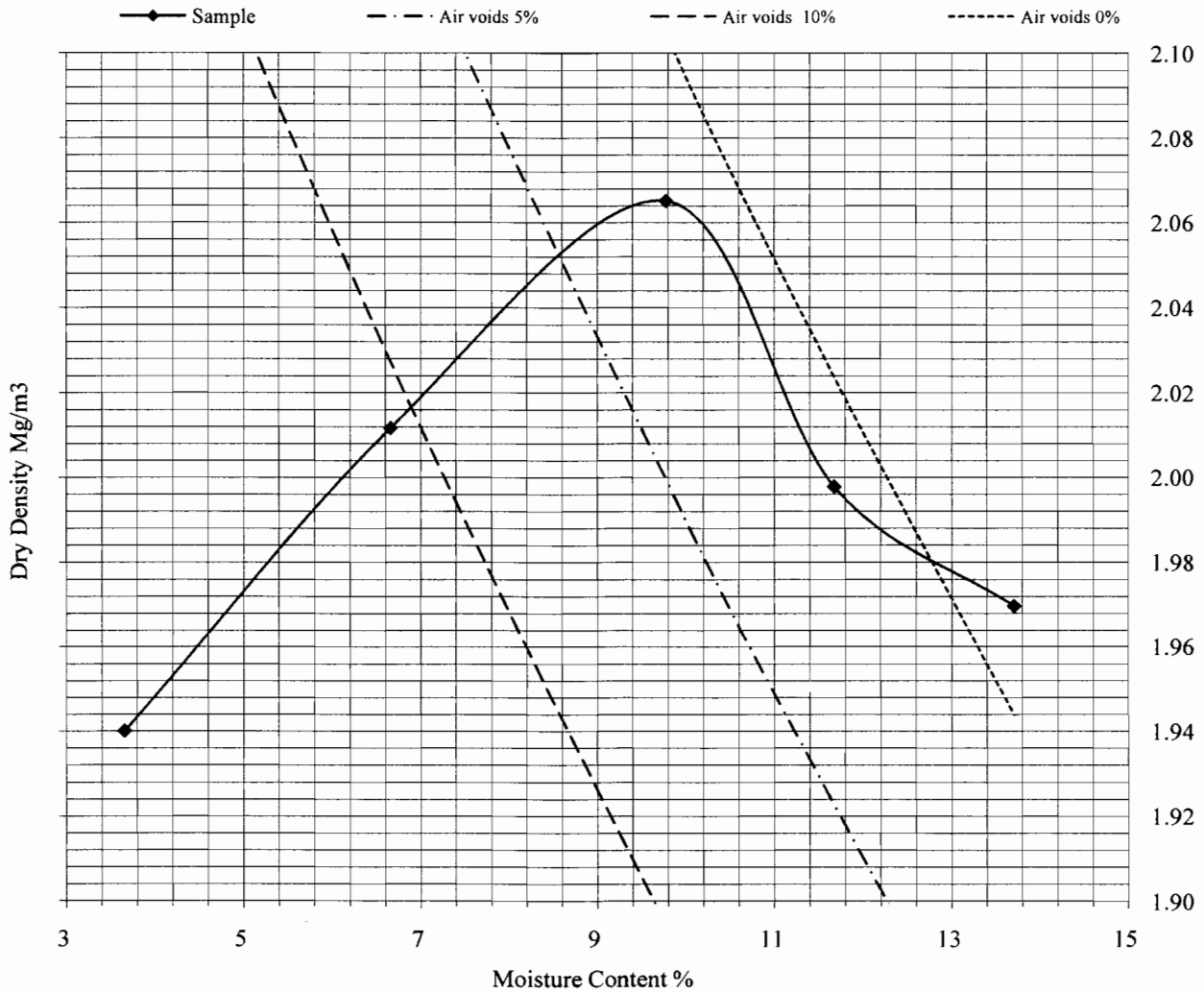
Contract No.:
 7772/09
 Client Ref No:
 VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

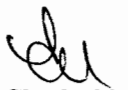

Hole Number: **BH5** Sample Number: **B1-+B2** Depth (m): **0.50-1.00**


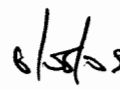


Initial Moisture Content:	14	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	2.07	Material Retained on 20.0 mm Test Sieve (%):	8
Optimum Moisture Content (%):	10	Sample Preparation Clause :	3.2.4.2

* - not included in laboratory scope of accreditation

Remarks


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 Date


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 Date



Lostock Works Cheshire

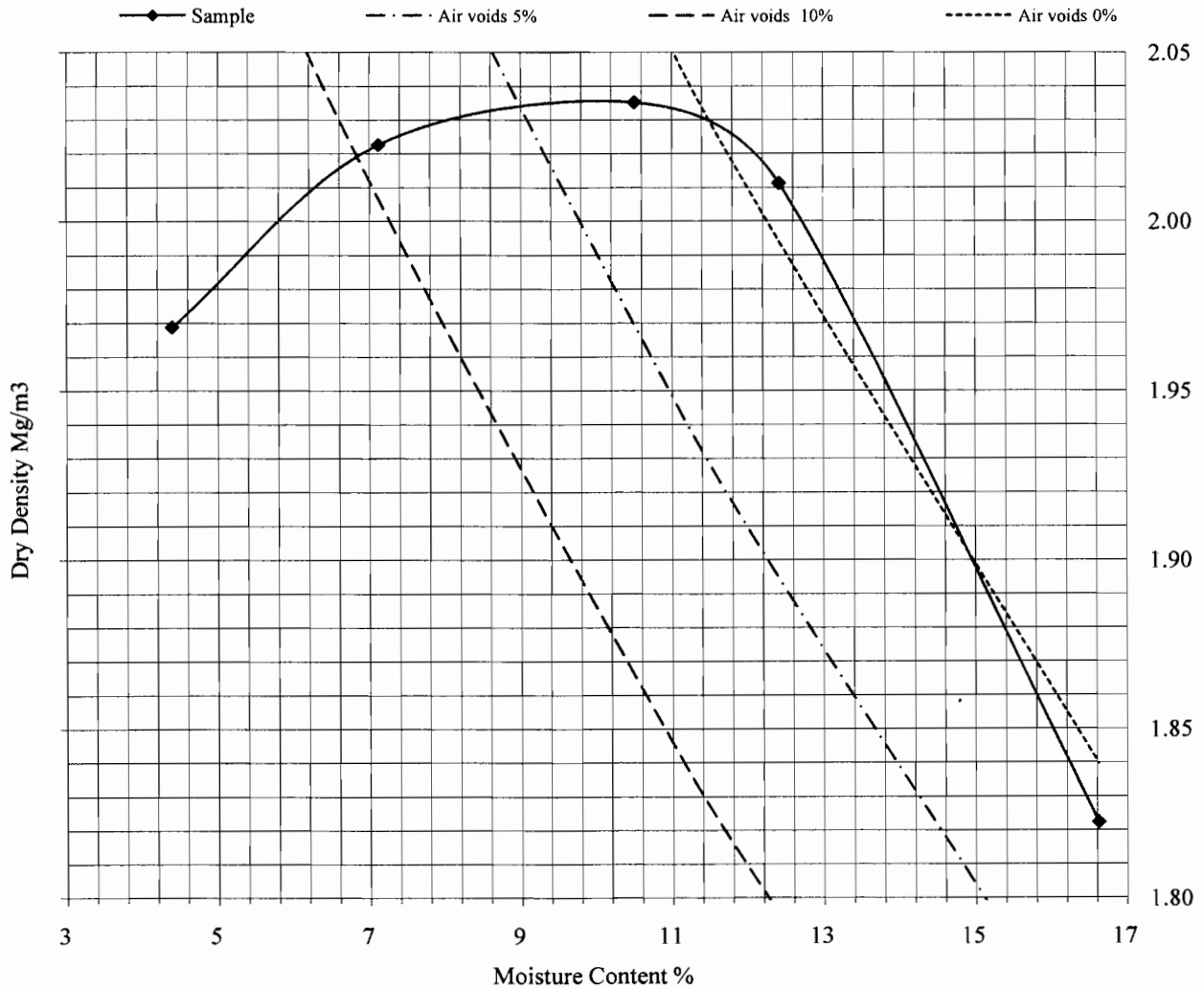
Contract No.:
 7772/09
 Client Ref No:
 VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: **BH7** Sample Number: **B1** Depth (m): **0.70-1.20**



Initial Moisture Content:	12	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	74
Maximum Dry Density (mg/m ³):	2.04	Material Retained on 20.0 mm Test Sieve (%):	84
Optimum Moisture Content (%):	11	Sample Preparation Clause :	Non-Standard

* - not included in laboratory scope of accreditation

Remarks

Checked by *[Signature]* Date *6/12/09*

Approved by *[Signature]* Date *6/12/09*



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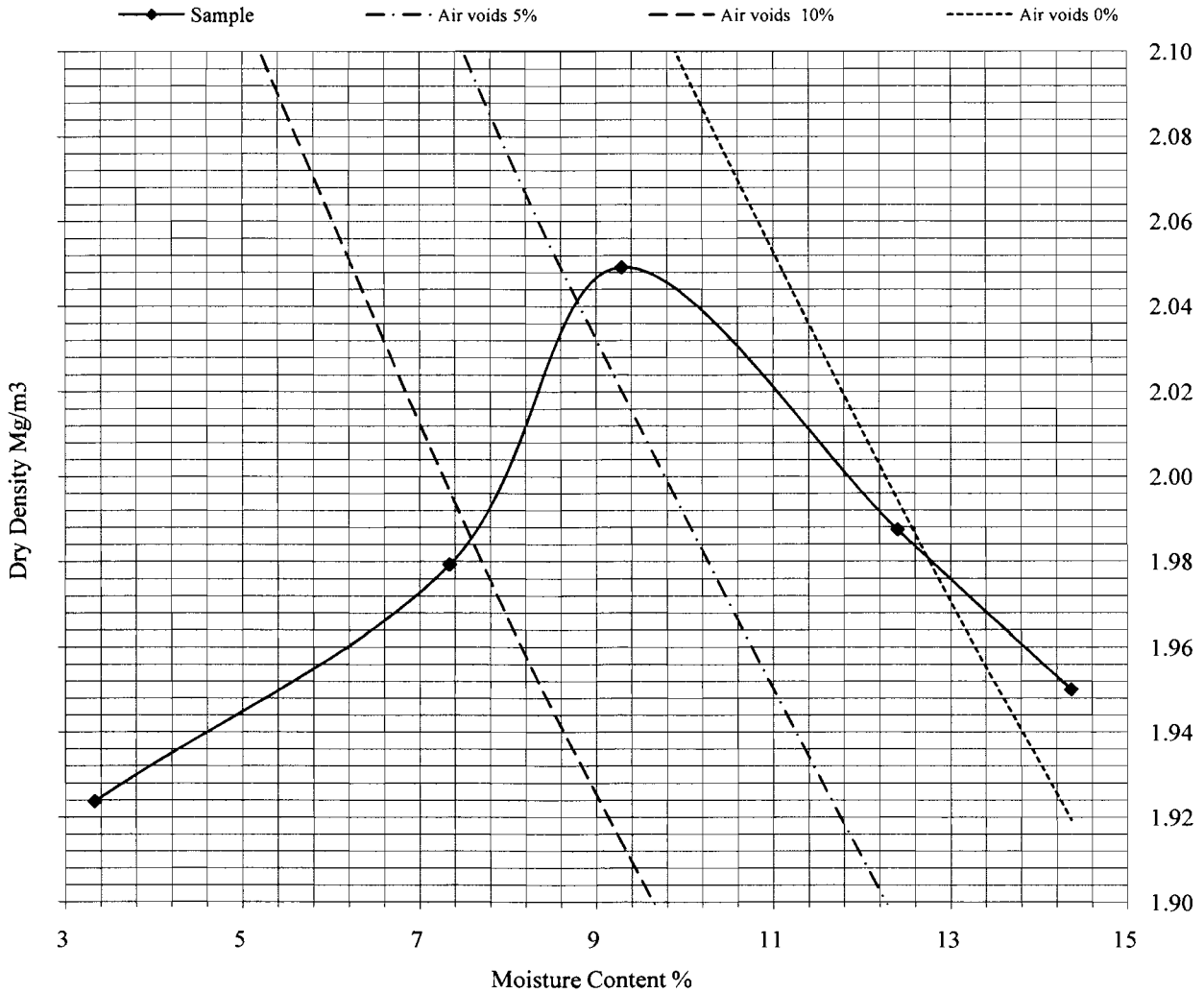
Contract No.: 7772/09
Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: **BH8** Sample Number: **B2** Depth (m): **0.50**



Initial Moisture Content:	14	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	2.05	Material Retained on 20.0 mm Test Sieve (%):	14
Optimum Moisture Content (%):	9.3	Sample Preparation Clause :	3.2.4.2

* - not included in laboratory scope of accreditation

Remarks

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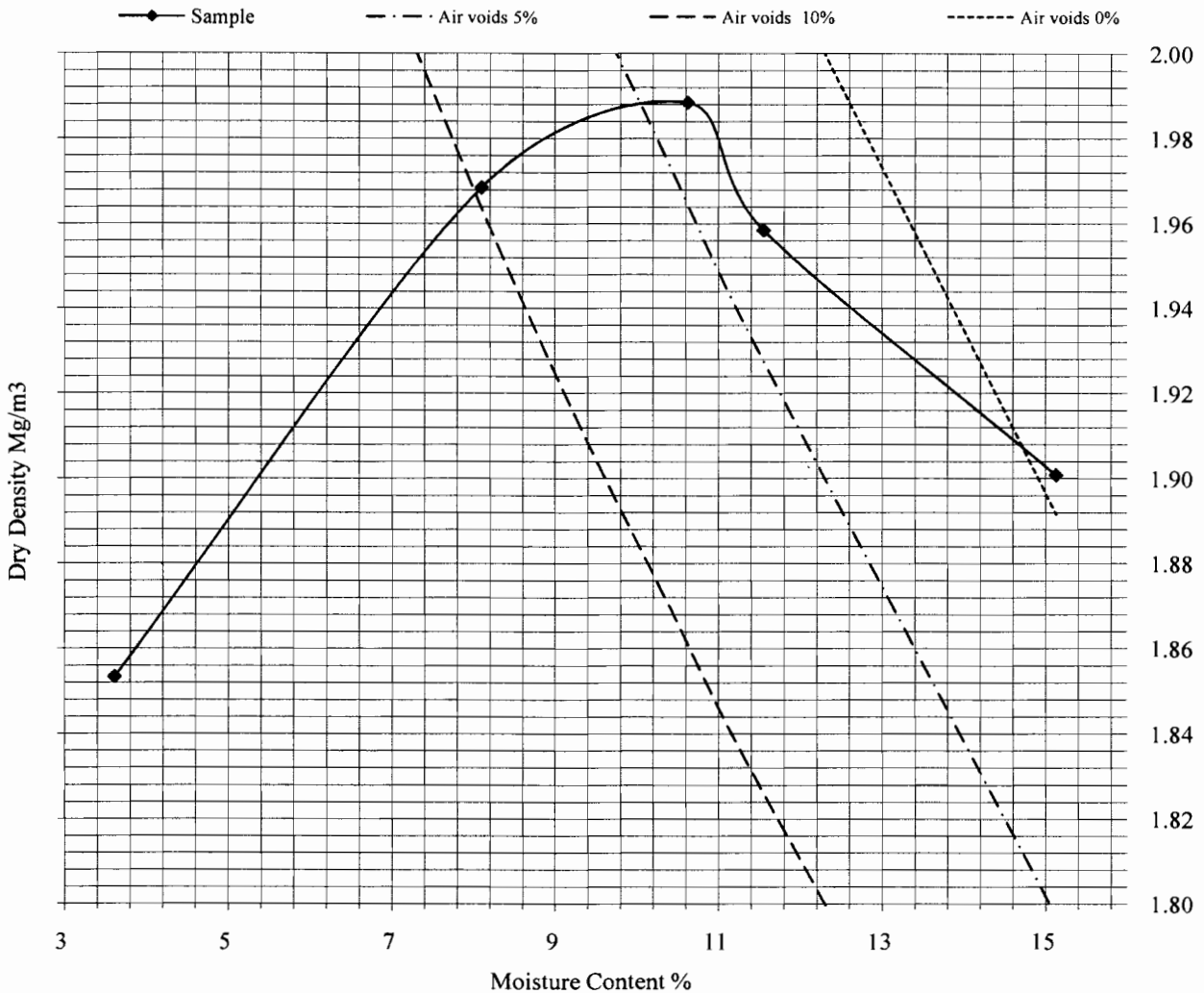
Contract No.:
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Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: **BH10** Sample Number: **B2** Depth (m): **1.20-1.70**



Initial Moisture Content:	15	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.99	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	11	Sample Preparation Clause :	3.2.4.1

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Remarks

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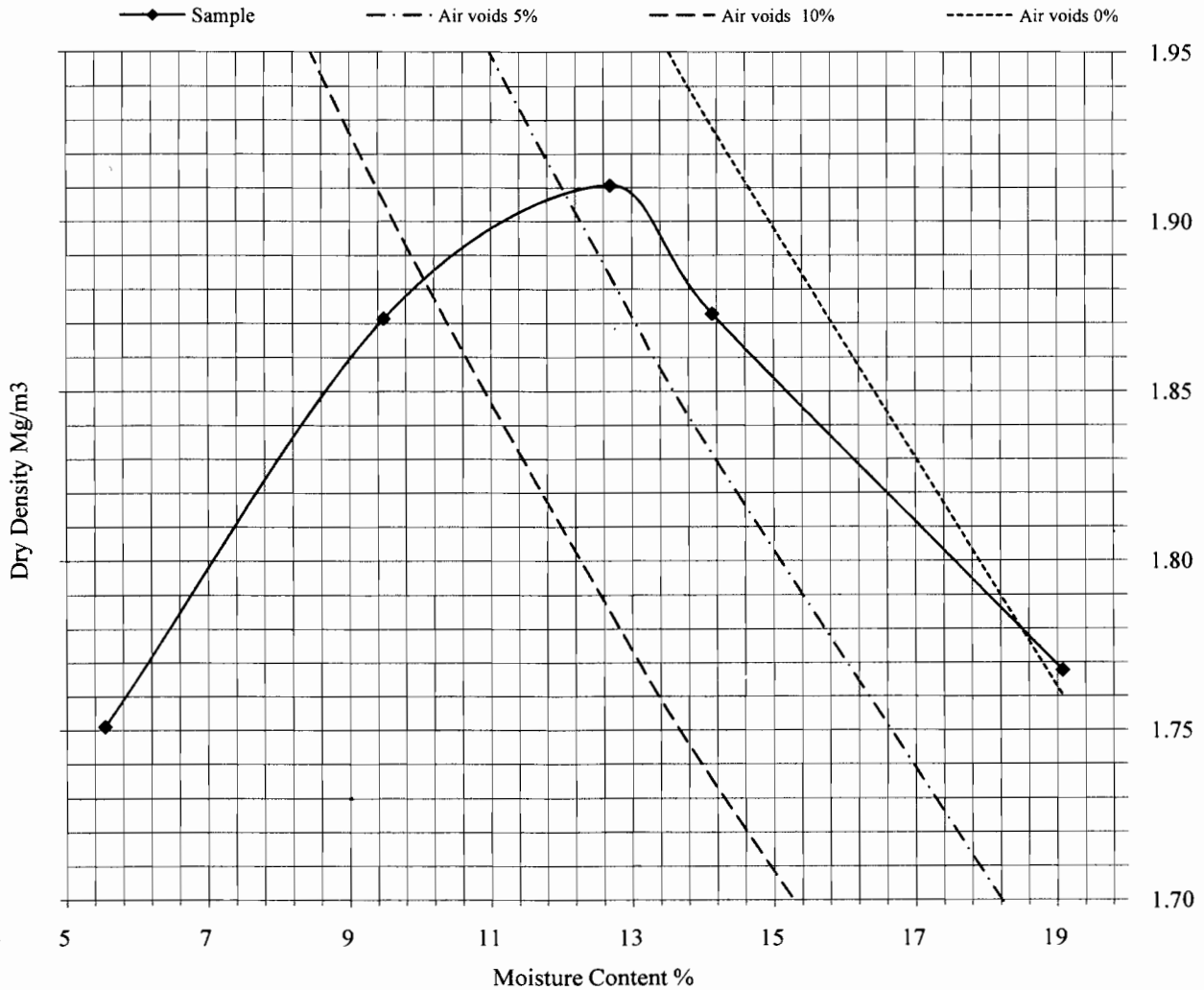
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Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: **BH14** Sample Number: **B1** Depth (m): **0.80-1.20**



Initial Moisture Content:	19	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	47
Maximum Dry Density (mg/m ³):	1.91	Material Retained on 20.0 mm Test Sieve (%):	57
Optimum Moisture Content (%):	13	Sample Preparation Clause :	Non-Standard

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Remarks

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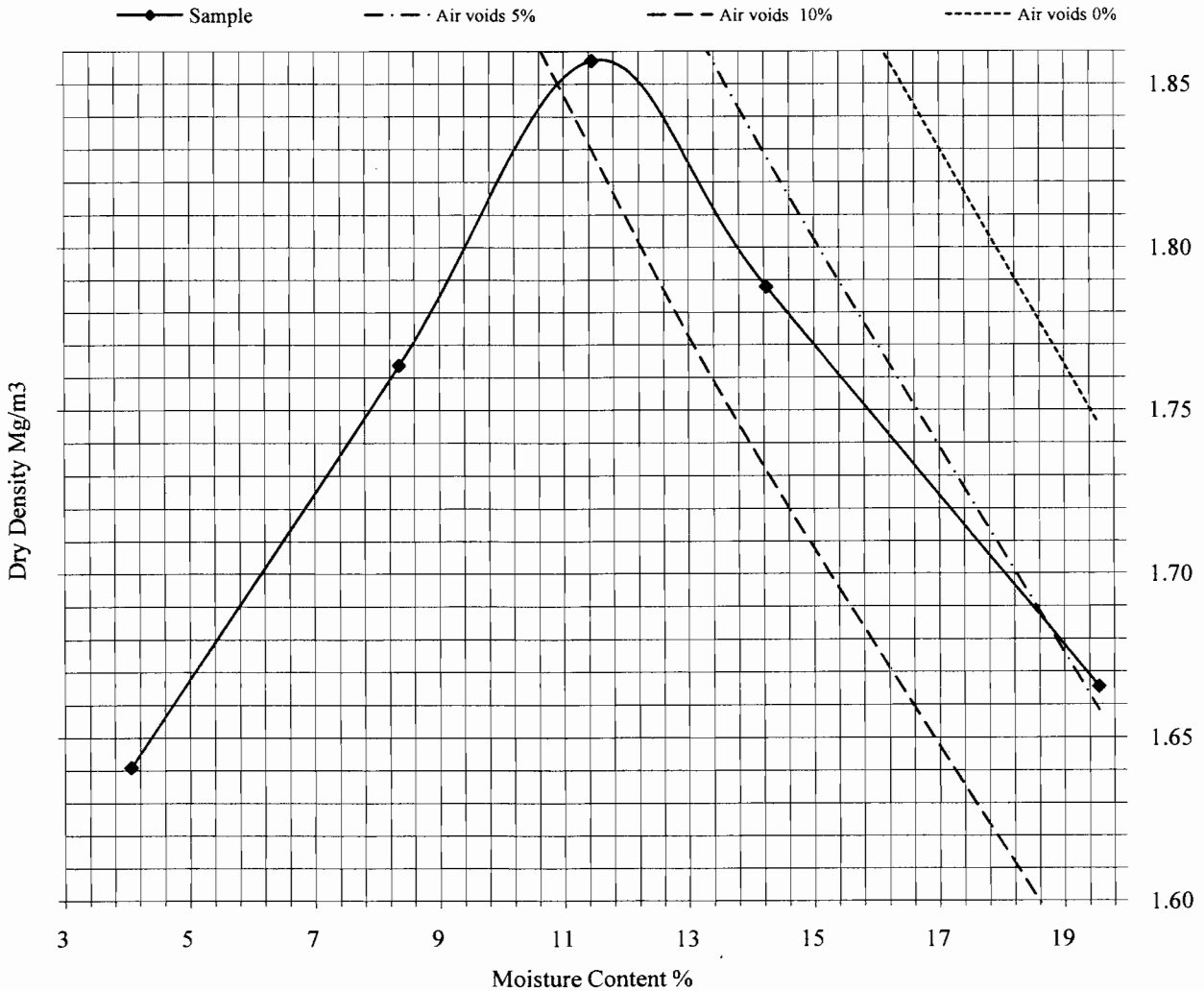
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Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: **BH16** Sample Number: **B4** Depth (m): **1.20-1.90**



Initial Moisture Content:	20	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	9
Maximum Dry Density (mg/m ³):	1.86	Material Retained on 20.0 mm Test Sieve (%):	24
Optimum Moisture Content (%):	11	Sample Preparation Clause :	3.2.4.2

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Remarks

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Date *6/8/09*



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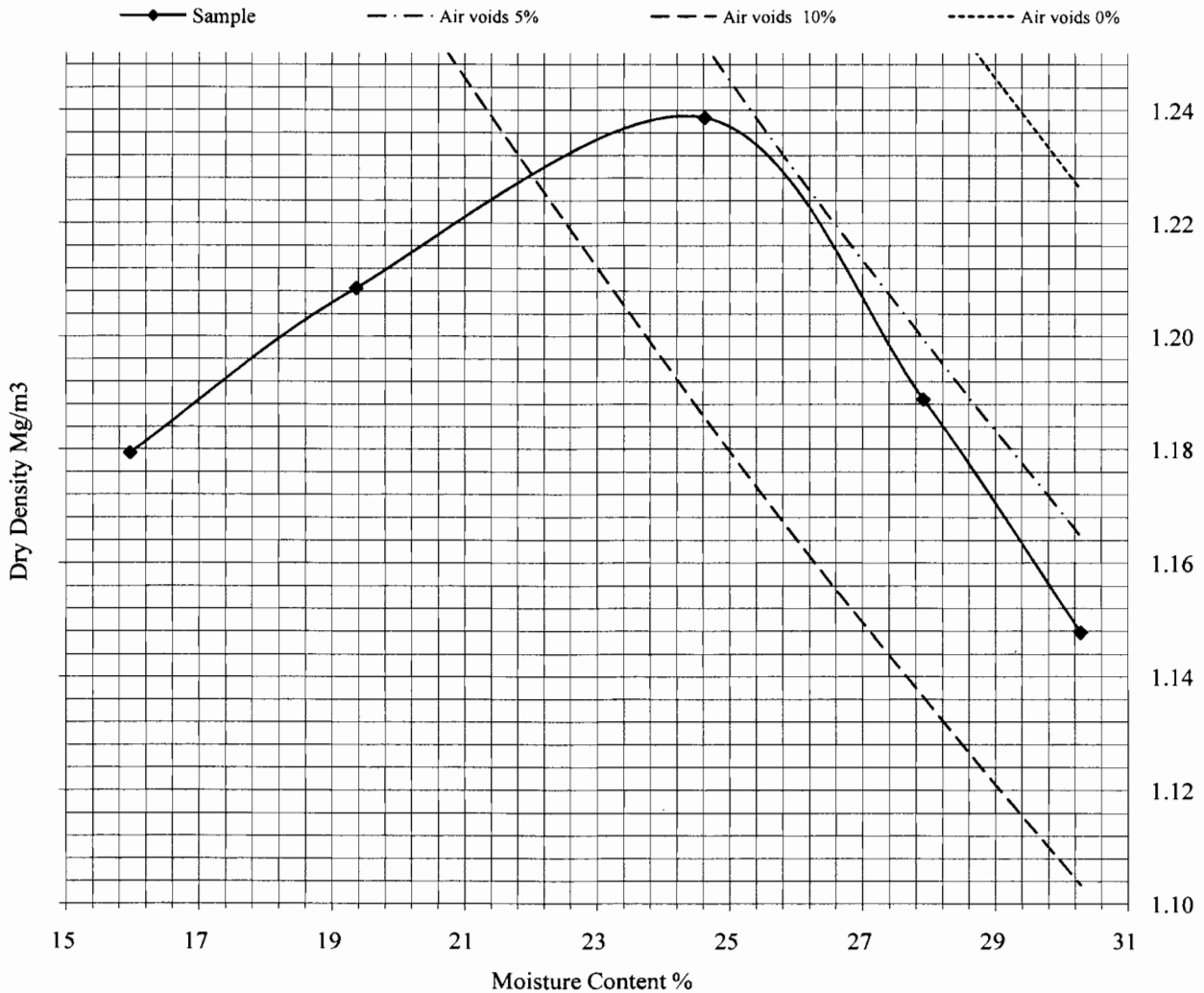
Contract No.: 7772/09
Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990


Hole Number: TP2 Sample Number: N/A Depth (m): 0.20





Initial Moisture Content:	22	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	1.95* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.24	Material Retained on 20.0 mm Test Sieve (%):	6
Optimum Moisture Content (%):	25	Sample Preparation Clause :	3.2.4.2

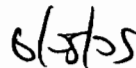
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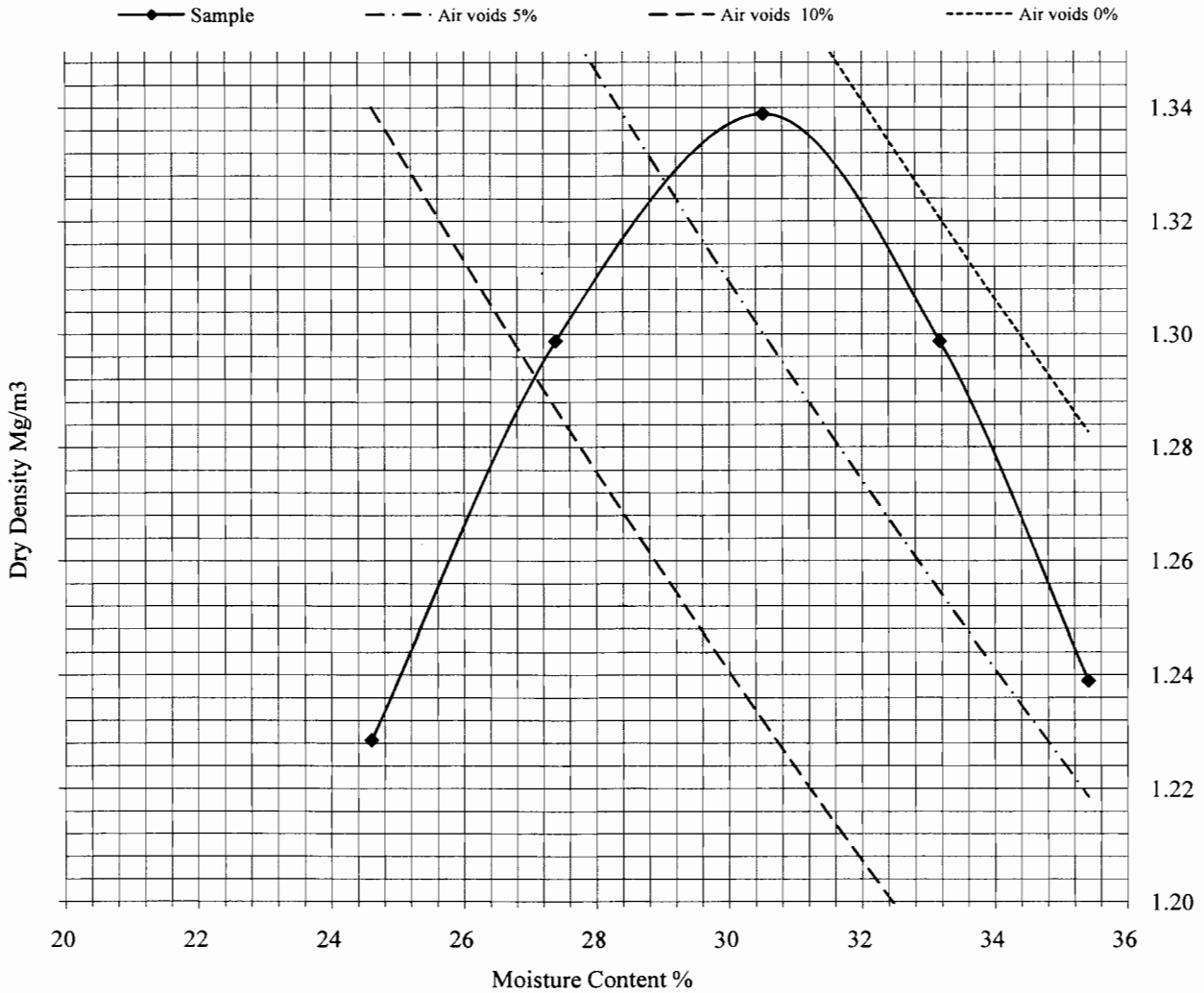
Contract No.: 7772/09
 Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990


Hole Number: TP3 Sample Number: N/A Depth (m): 0.90-1.20




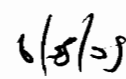
Initial Moisture Content:	27	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.35* Assumed	Material Retained on 37.5 mm Test Sieve (%):	26
Maximum Dry Density (mg/m ³):	1.34	Material Retained on 20.0 mm Test Sieve (%):	32
Optimum Moisture Content (%):	31	Sample Preparation Clause :	Non-Standard

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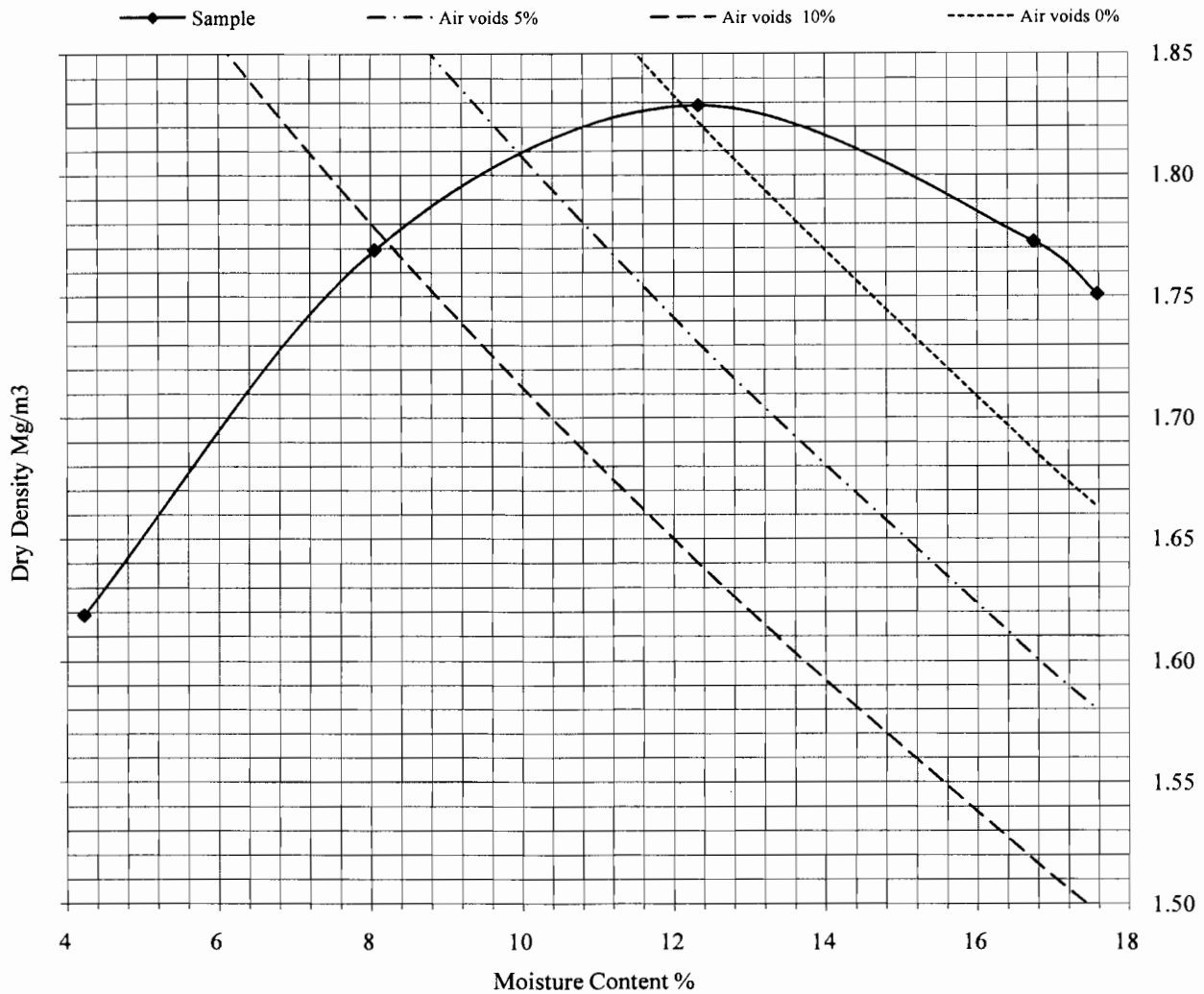
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 7772/09
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 VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP5 Sample Number: N/A Depth (m): 0.70-1.00



Initial Moisture Content:	18	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.35* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.83	Material Retained on 20.0 mm Test Sieve (%):	8
Optimum Moisture Content (%):	12	Sample Preparation Clause :	3.2.4.2

* - not included in laboratory scope of accreditation

Remarks

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Approved by *[Signature]* Date 6/25/09



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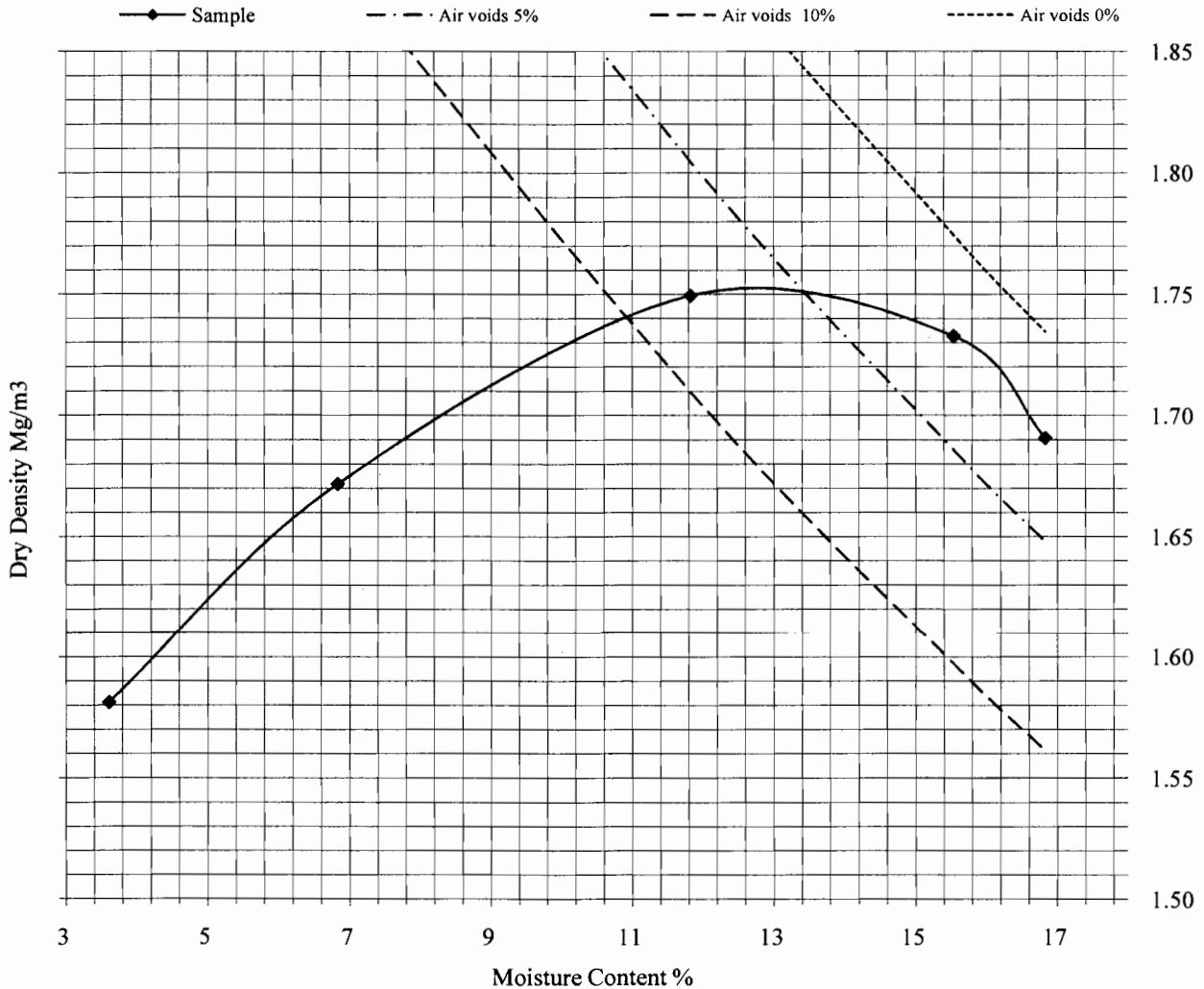
Contract No.: 7772/09
Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP6 Sample Number: N/A Depth (m): 3.30



Initial Moisture Content:	17	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.45* Assumed	Material Retained on 37.5 mm Test Sieve (%):	42
Maximum Dry Density (mg/m ³):	1.75	Material Retained on 20.0 mm Test Sieve (%):	62
Optimum Moisture Content (%):	12	Sample Preparation Clause :	Non-Standard

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Remarks

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Date 6/12/09



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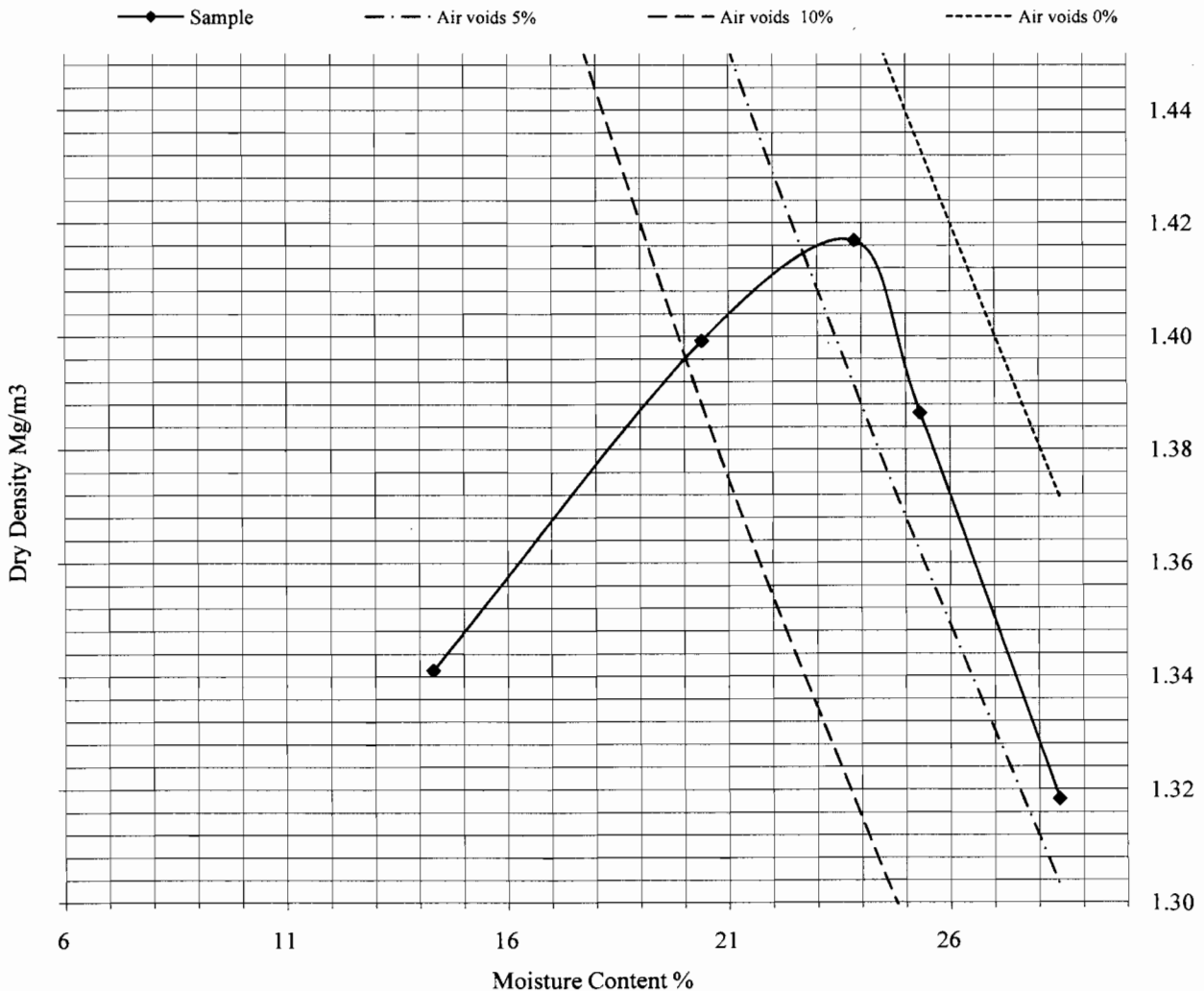
Contract No.: 7772/09
Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP8 Sample Number: N/A Depth (m): 0.30-1.00



Initial Moisture Content:	24	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.25* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.42	Material Retained on 20.0 mm Test Sieve (%):	3
Optimum Moisture Content (%):	24	Sample Preparation Clause :	3.2.4.1

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Remarks

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Date: 6/12/09

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Date: 6/12/09



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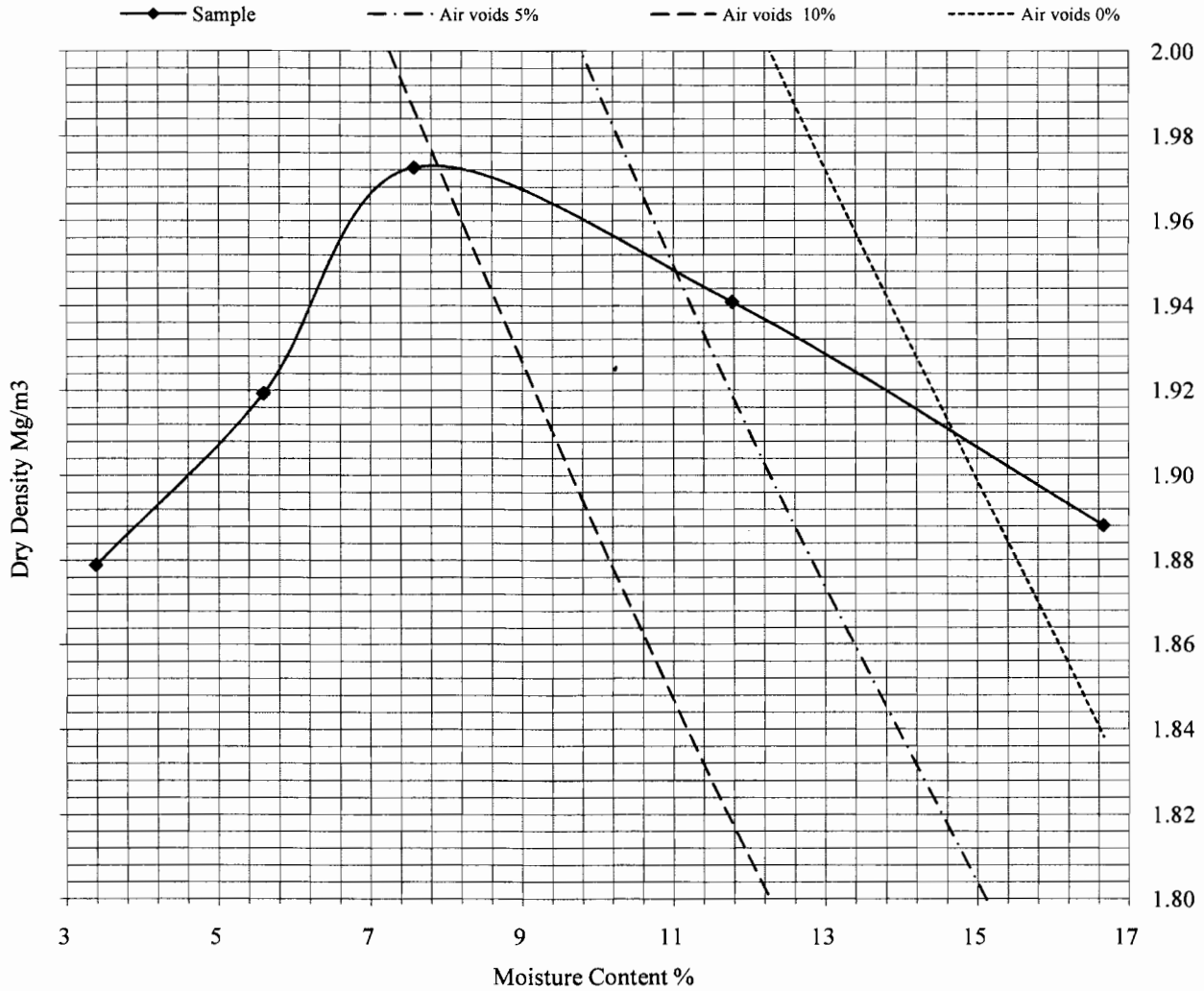
Contract No.: 7772/09
Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP10 Sample Number: N/A Depth (m): 0.90



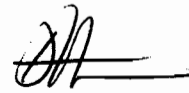
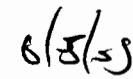
Initial Moisture Content:	17	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.97	Material Retained on 20.0 mm Test Sieve (%):	16
Optimum Moisture Content (%):	7.6	Sample Preparation Clause :	3.2.4.2

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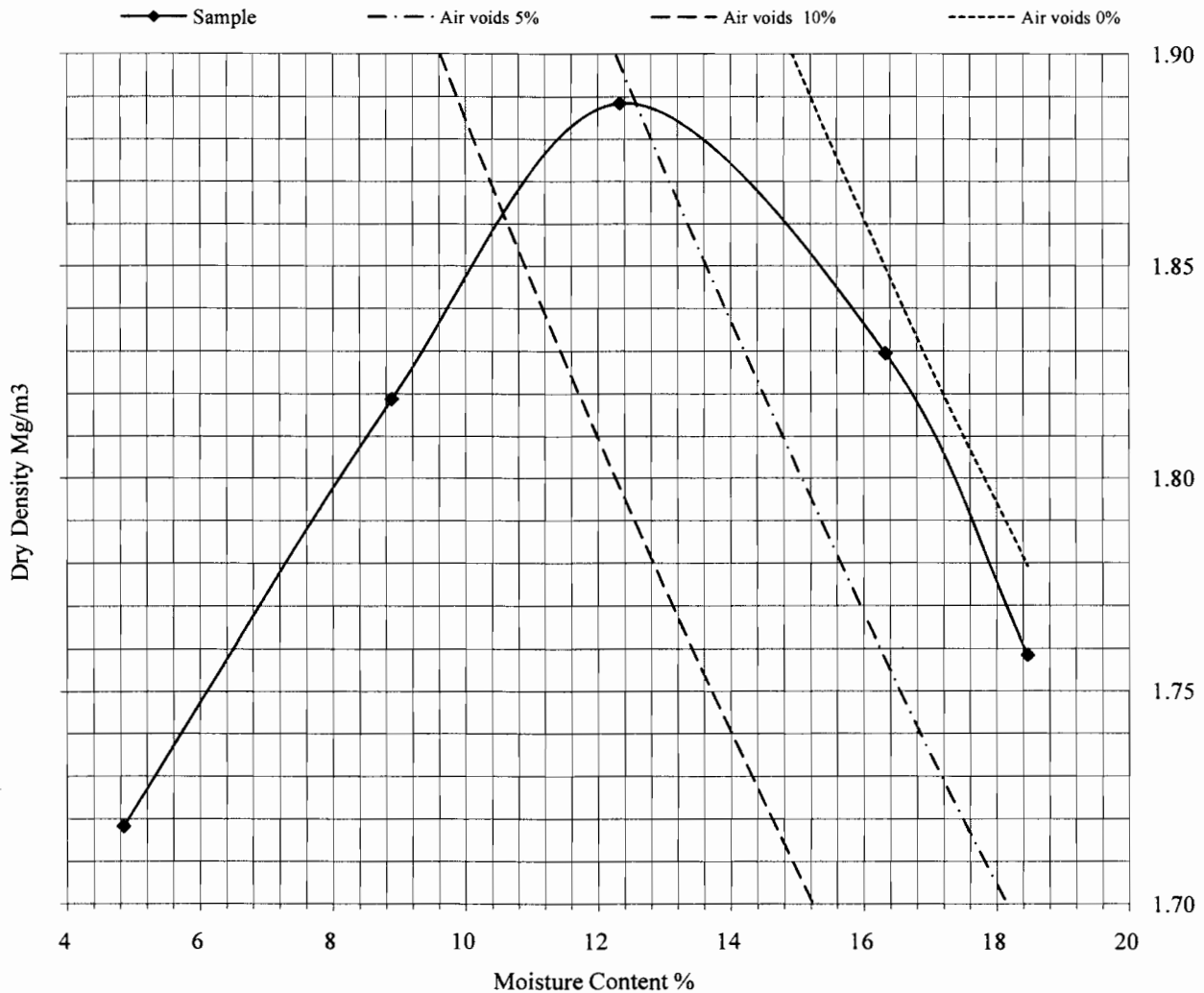
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Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990


Hole Number: TP11 Sample Number: N/A Depth (m): 1.20




Initial Moisture Content:	16	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	10
Maximum Dry Density (mg/m ³):	1.89	Material Retained on 20.0 mm Test Sieve (%):	24
Optimum Moisture Content (%):	12	Sample Preparation Clause :	3.2.4.2

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Remarks


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 Date 6/5/09


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 Date 6/5/09



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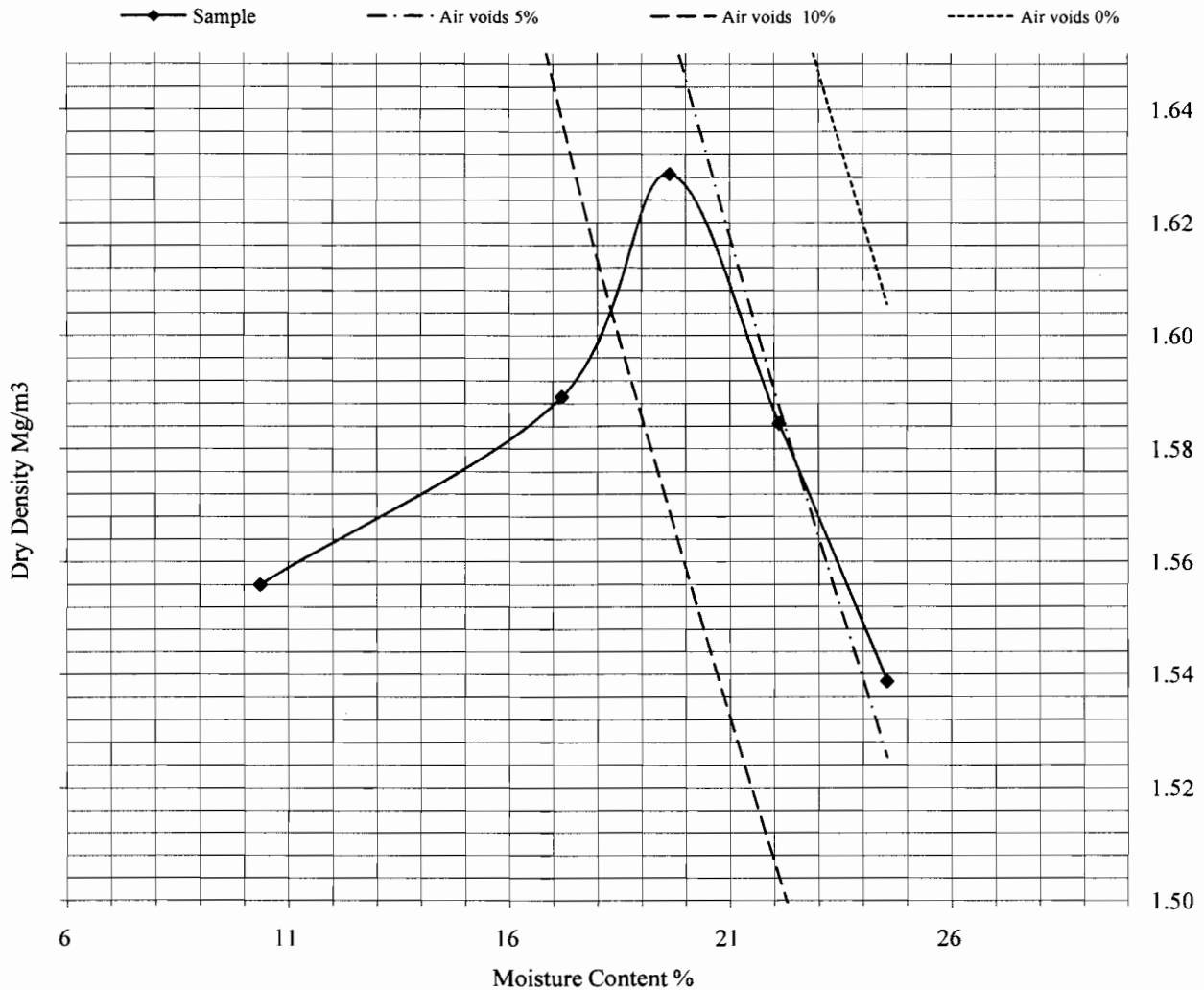
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 VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP12 Sample Number: N/A Depth (m): 1.00



Initial Moisture Content:	22	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.65* Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m ³):	1.63	Material Retained on 20.0 mm Test Sieve (%):	18
Optimum Moisture Content (%):	20	Sample Preparation Clause :	3.2.4.2

* - not included in laboratory scope of accreditation

Remarks

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Date: 6/12/05

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Date: 6/12/05



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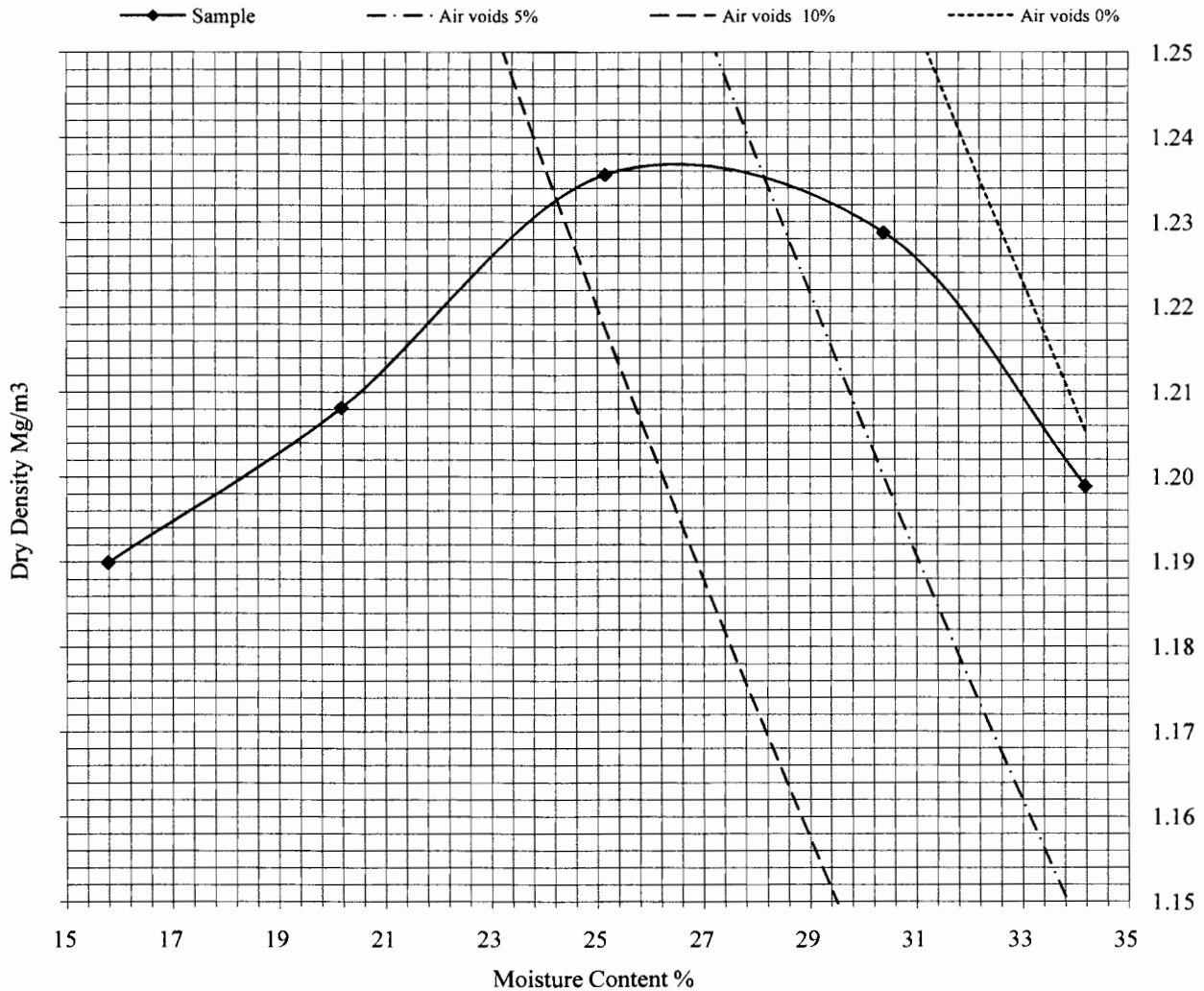
Contract No.: 7772/09
Client Ref No: VE059592/LE10



Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP13 Sample Number: N/A Depth (m): 1.50



Initial Moisture Content:	20	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m ³):	2.05* Assumed	Material Retained on 37.5 mm Test Sieve (%):	14
Maximum Dry Density (mg/m ³):	1.24	Material Retained on 20.0 mm Test Sieve (%):	33
Optimum Moisture Content (%):	25	Sample Preparation Clause :	Non-Standard

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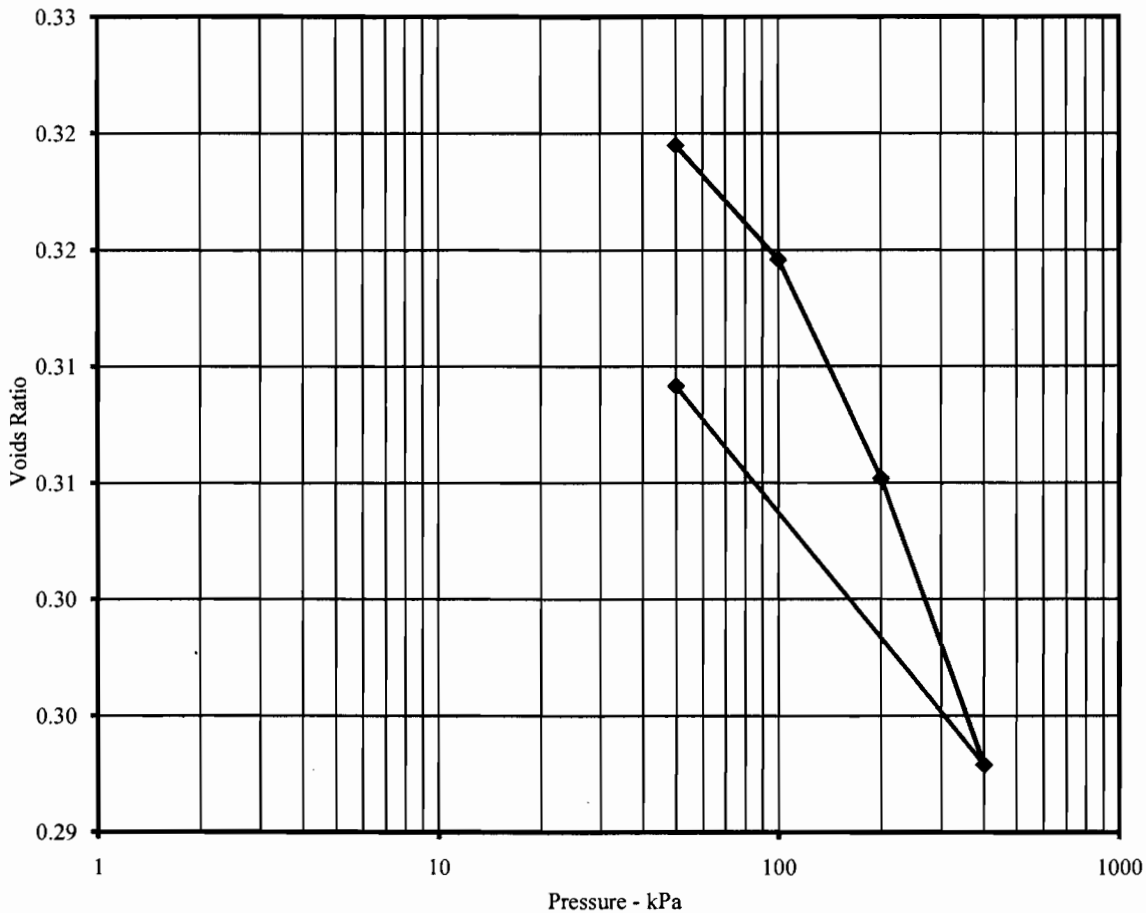
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH1**

Depth (m): **4.80-5.25**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	11	kPa	m ² /MN	m ² /yr	Cv Calculated using t ₉₀
Bulk Density (Mg/m ³):	2.21	0 - 50	0.256	3.960	Nominal Laboratory Temperature 20°C
Dry Density (Mg/m ³):	1.98	50 - 100	0.074	2.426	
Voids Ratio:	0.3366	100 - 200	0.071	2.674	Location of specimen with sample Top
Degree of saturation:	90.4	200 - 400	0.047	4.398	
Height (mm):	19.92	400 - 50	0.036	5.171	Remarks:
Diameter (mm)	75.03				
Particle Density (Mg/m ³):	2.65				
Assumed					



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Contract No.
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Client Ref No.
LE10104/VE05



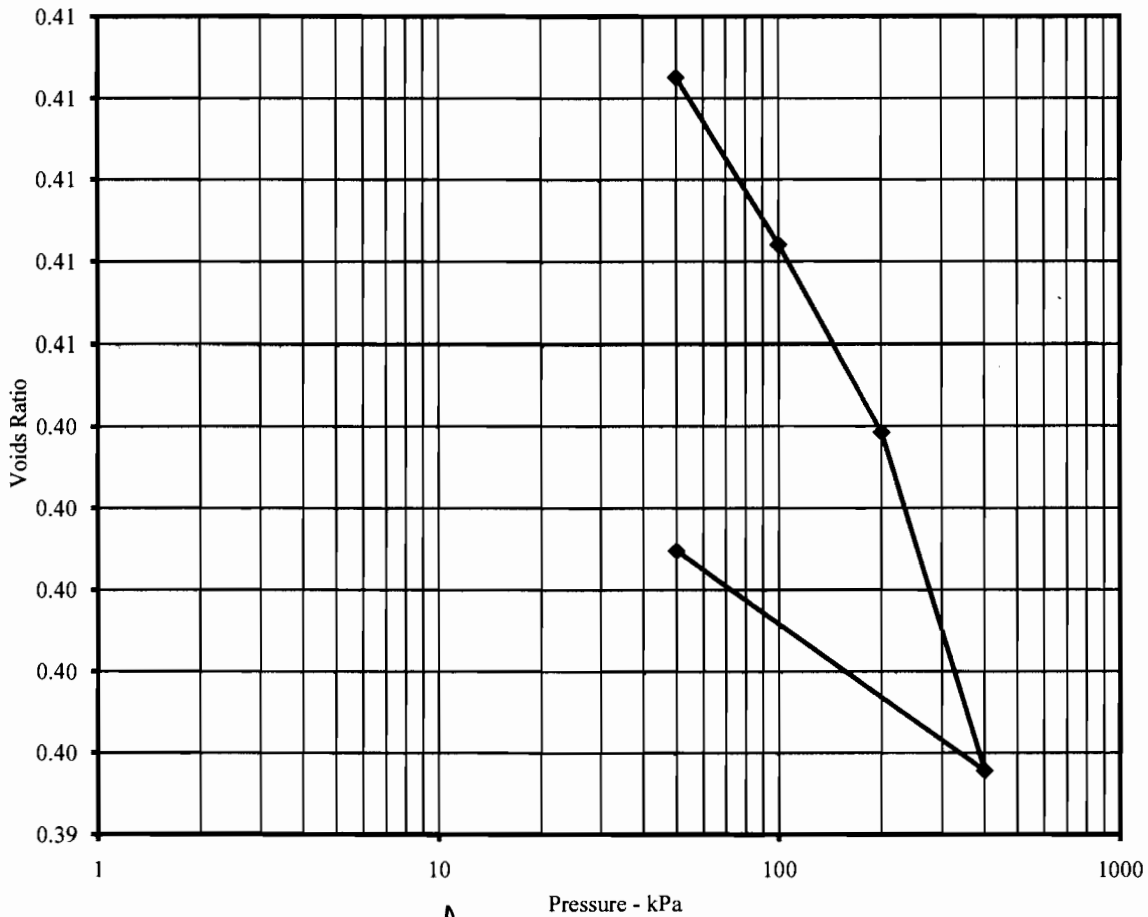
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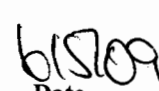
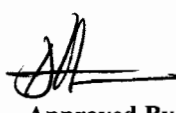
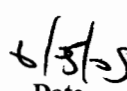
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH4** Sample Number: 14 Depth (m): **4.40-4.85**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	12	kPa	m ² /MN	m ² /yr	Cv Calculated using t ₉₀
Bulk Density (Mg/m ³):	2.08	0 - 50	0.108	7.984	Nominal Laboratory Temperature 20°C
Dry Density (Mg/m ³):	1.87	50 - 100	0.058	6.769	
Voids Ratio:	0.4202	100 - 200	0.032	1.301	Location of specimen with sample
Degree of saturation:	73.9	200 - 400	0.029	5.358	Top
Height (mm):	18.69	400 - 50	0.011	7.963	Remarks:
Diameter (mm)	75.16				
Particle Density (Mg/m ³):	2.65				
Assumed					




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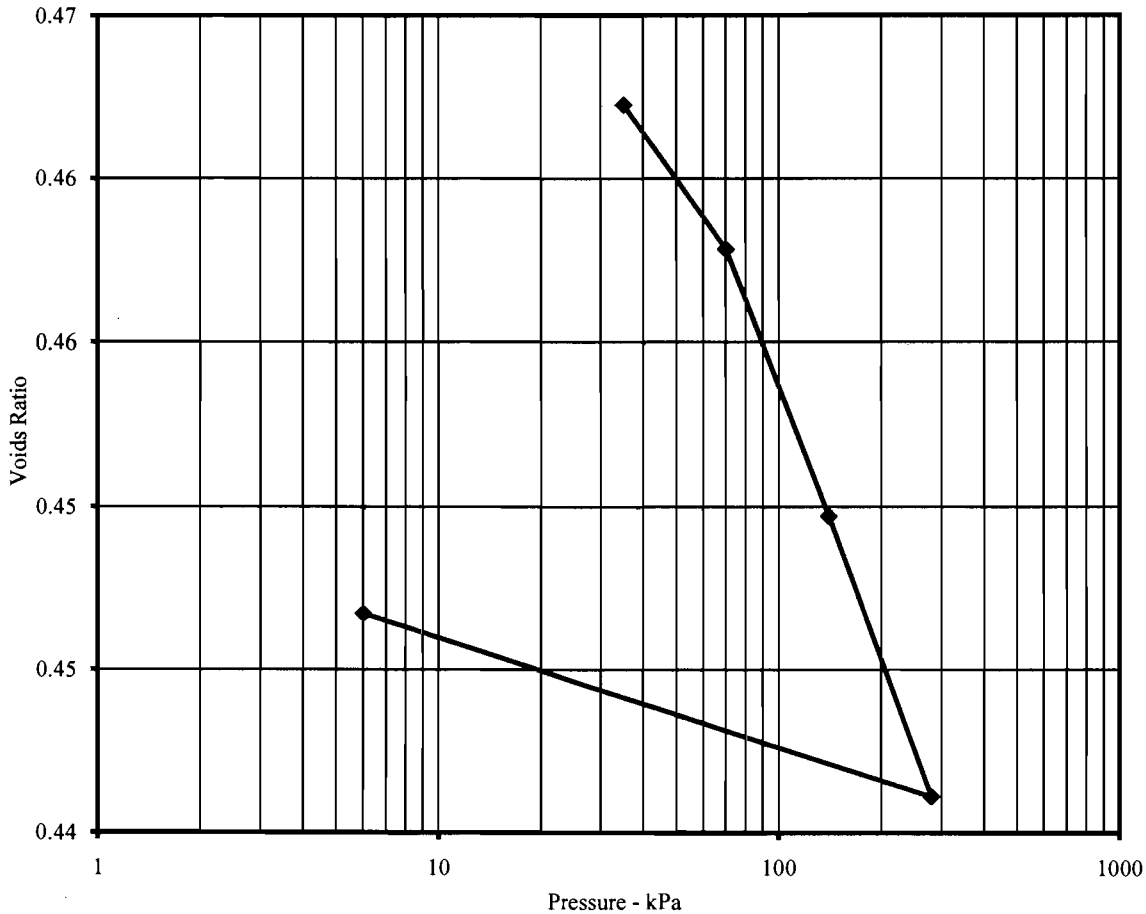
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ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH5** Sample Number: 11 Depth (m): **3.40-3.85**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	16	kPa	m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	2.08	0 - 35	0.407	2.248	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.79	35 - 70	0.086	2.258	20°C
Voids Ratio:	0.4834	70 - 140	0.080	0.638	Location of specimen with sample
Degree of saturation:	89.2	140 - 280	0.042	3.020	Top
Height (mm):	18.82	280 - 6	0.014	5.478	Remarks:
Diameter (mm)	75.14				
Particle Density (Mg/m3):	2.65				
Assumed					



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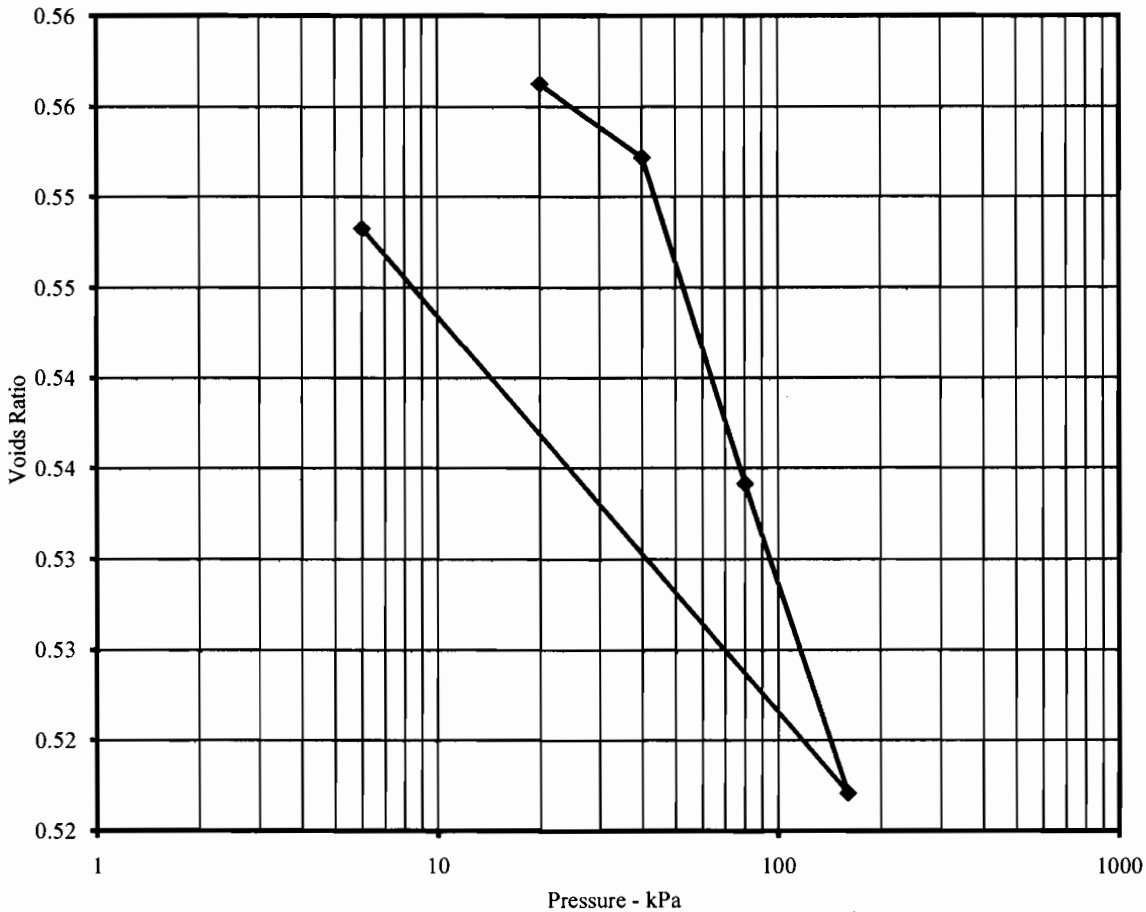
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ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH10** Sample Number: **5** Depth (m): **1.80-2.25**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	19	kPa	m ² /MN	m ² /yr	Cv Calculated using t ₉₀
Bulk Density (Mg/m ³):	2.03	0 - 20	Swelling	Stage	Nominal Laboratory Temperature
Dry Density (Mg/m ³):	1.70	20 - 40	0.131	5.711	20°C
Voids Ratio:	0.5577	40 - 80	0.291	0.679	Location of specimen with sample
Degree of saturation:	90.9	80 - 160	0.139	0.749	Top
Height (mm):	18.65	160 - 6	0.133	4.037	Remarks:
Diameter (mm)	75.12				
Particle Density (Mg/m ³):	2.65				
Assumed					



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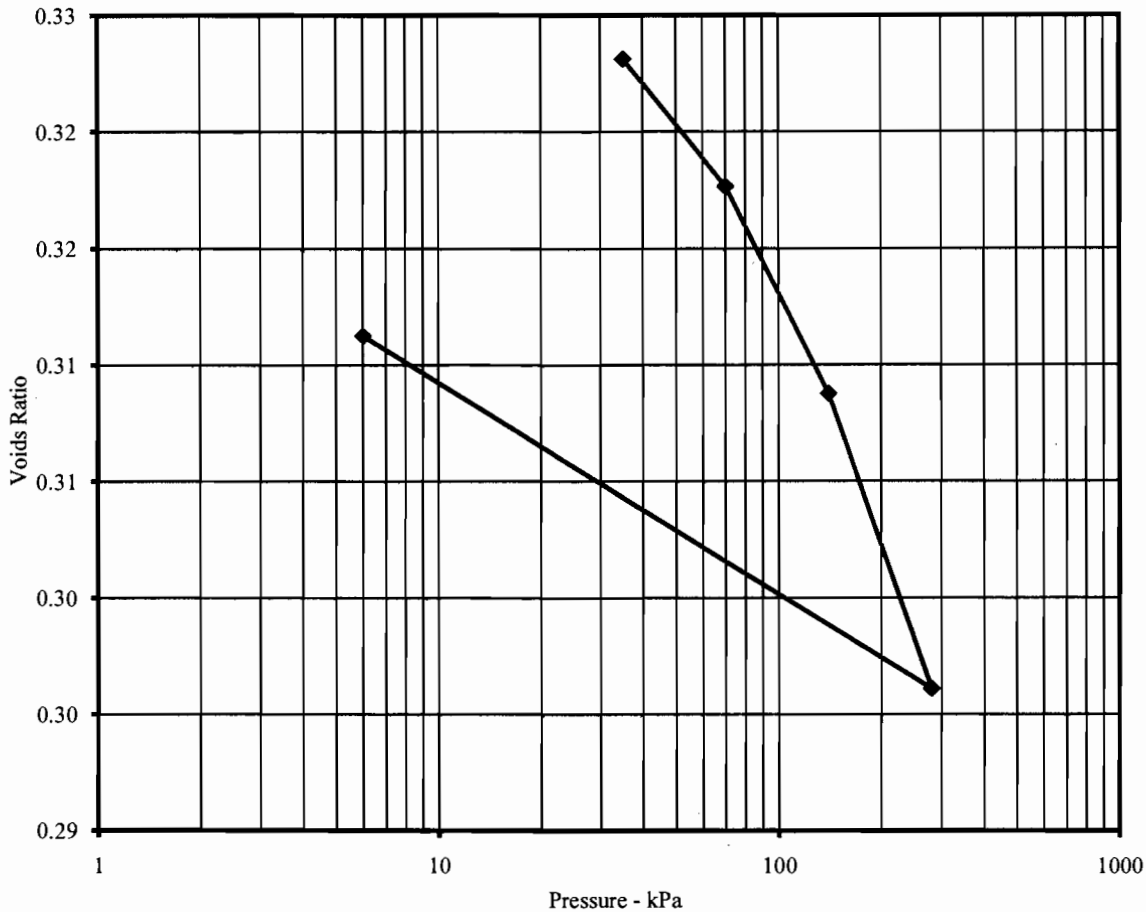
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH14**

Depth (m): **3.00-3.45**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	21	kPa	m ² /MN	m ² /yr	Cv Calculated using t ₉₀
Bulk Density (Mg/m ³):	2.22	0 - 35	0.153	3.092	Nominal Laboratory Temperature 20°C
Dry Density (Mg/m ³):	1.99	35 - 70	0.118	2.172	
Voids Ratio:	0.3302	70 - 140	0.096	2.394	Location of specimen with sample Top
Degree of saturation:	93.3	140 - 280	0.069	3.892	
Height (mm):	18.71	280 - 6	0.043	2.188	Remarks:
Diameter (mm)	75.11				
Particle Density (Mg/m ³):	2.65				
Assumed					



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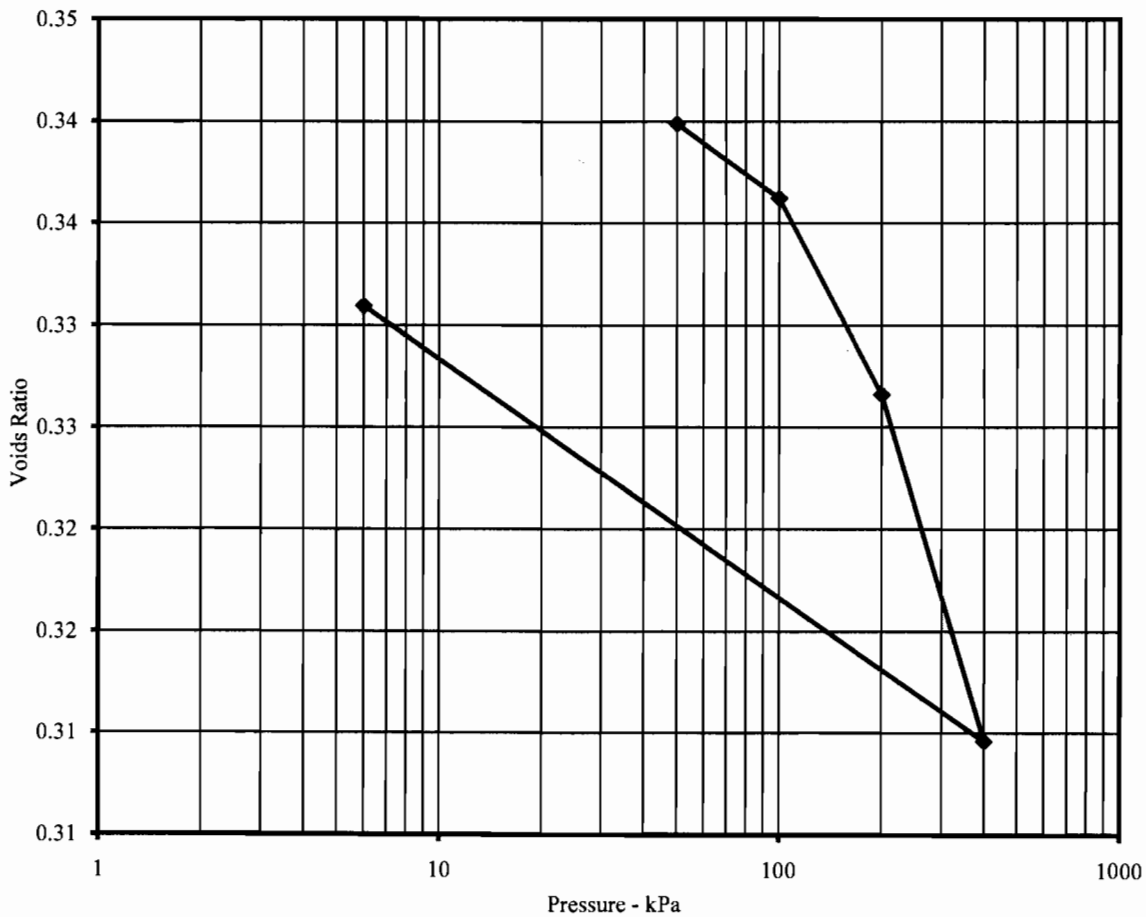
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH16**

Depth (m): **14.00-14.45**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	11	kPa	m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	2.20	0 - 50	Swelling	Stage	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.99	50 - 100	0.055	3.304	20°C
Voids Ratio:	0.3346	100 - 200	0.072	4.671	Location of specimen with sample
Degree of saturation:	86.8	200 - 400	0.064	4.578	Top
Height (mm):	20	400 - 6	0.041	2.521	Remarks:
Diameter (mm)	75				
Particle Density (Mg/m3):	2.65				
Assumed					



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Undrained Shear Strength in Triaxial Compression

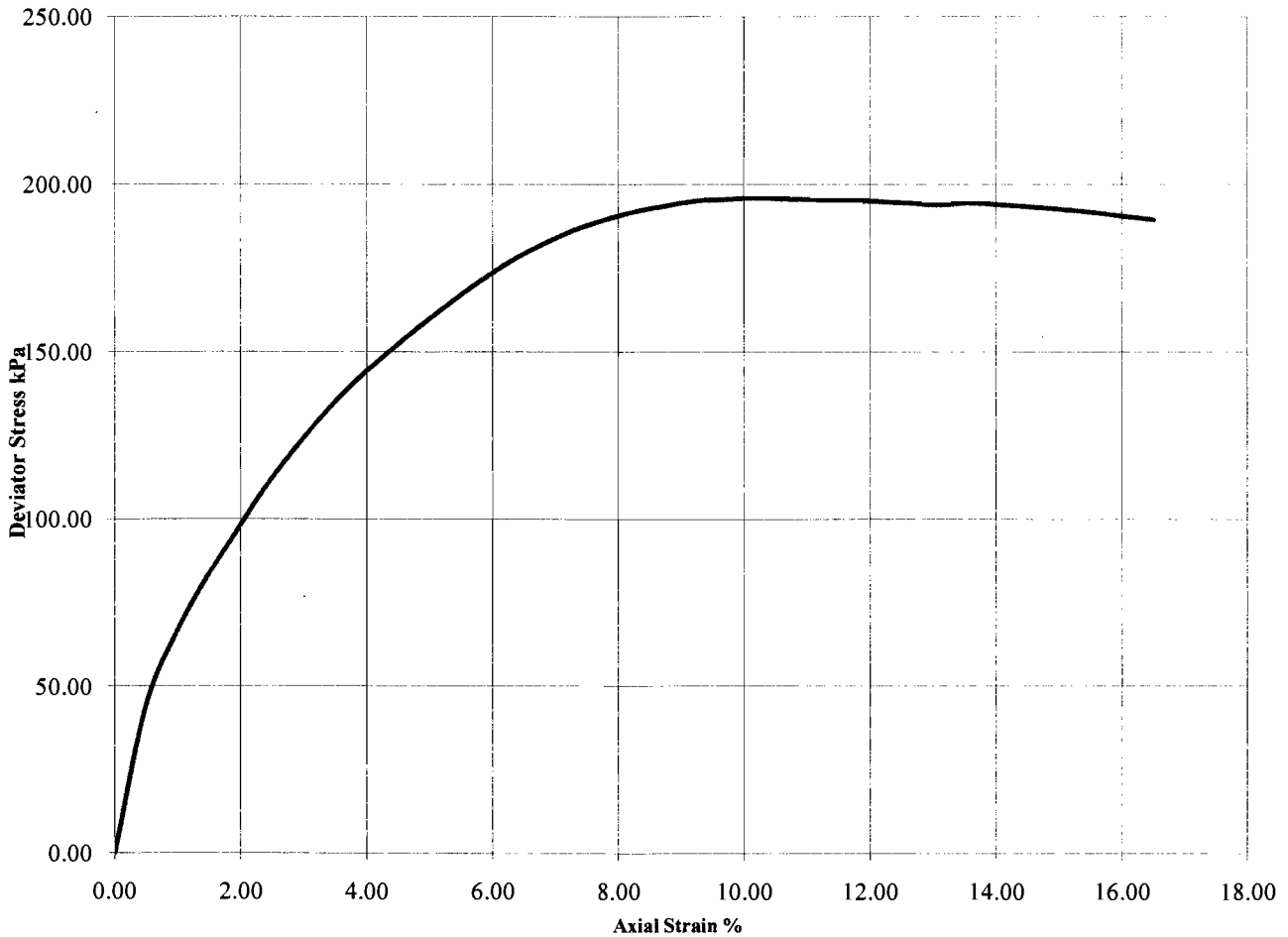
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH1 Sample Number: **5**

Depth (m): **2.00-2.45**



Diameter (mm):		102		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	35	2.04	1.51	22	196	98	9.7	compound			
				44	196	98	10.2				
				88	195	97	13.6				

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page of



Undrained Shear Strength in Triaxial Compression

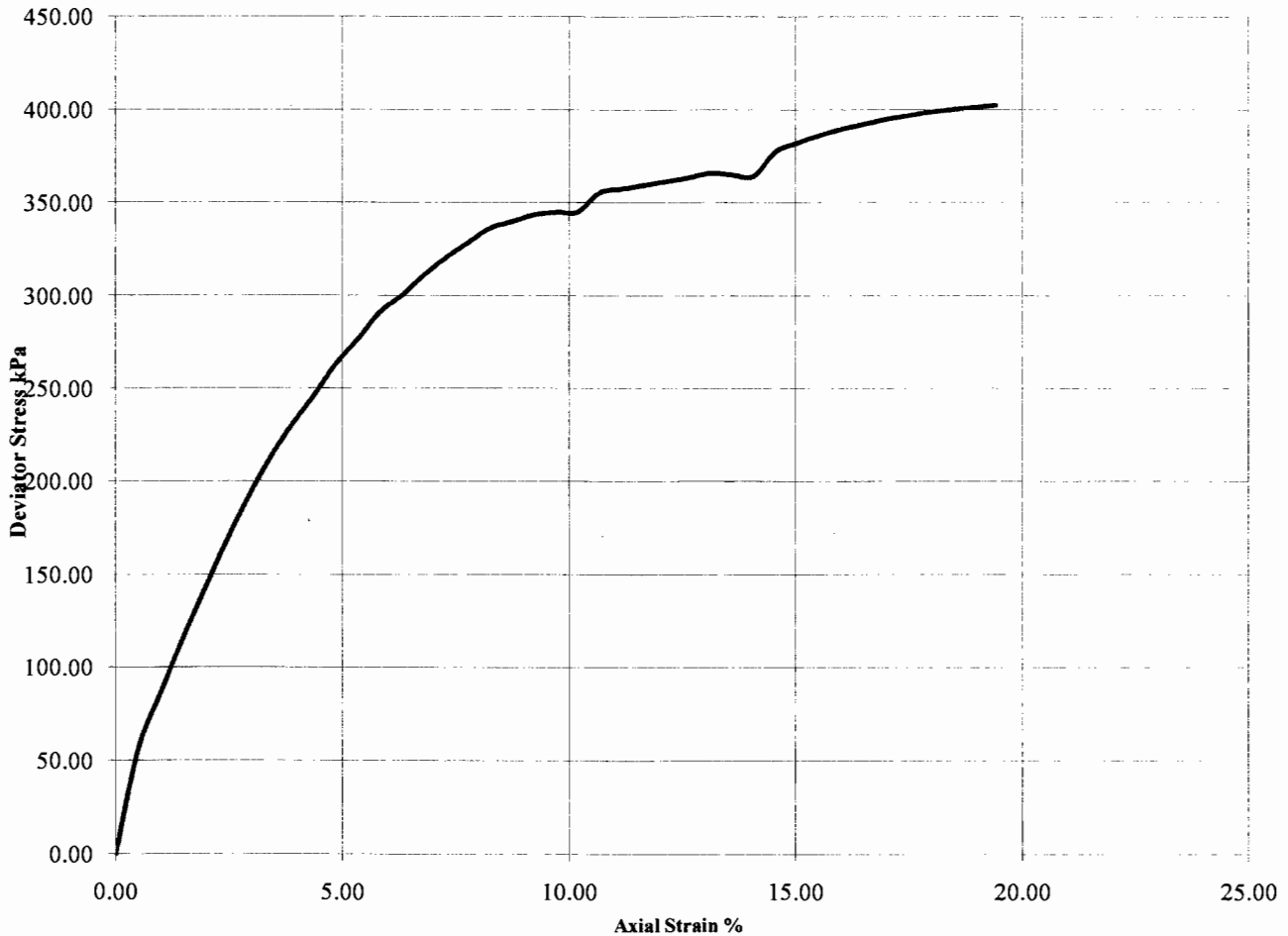
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH4 Sample Number: **14**

Depth (m): **4.40-4.85**



Diameter (mm):		105		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	12	2.15	1.91	500	345	173	10.2	compound			
				100	366	183	13.1				
				200	403	201	19.4				

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Undrained Shear Strength in Triaxial Compression

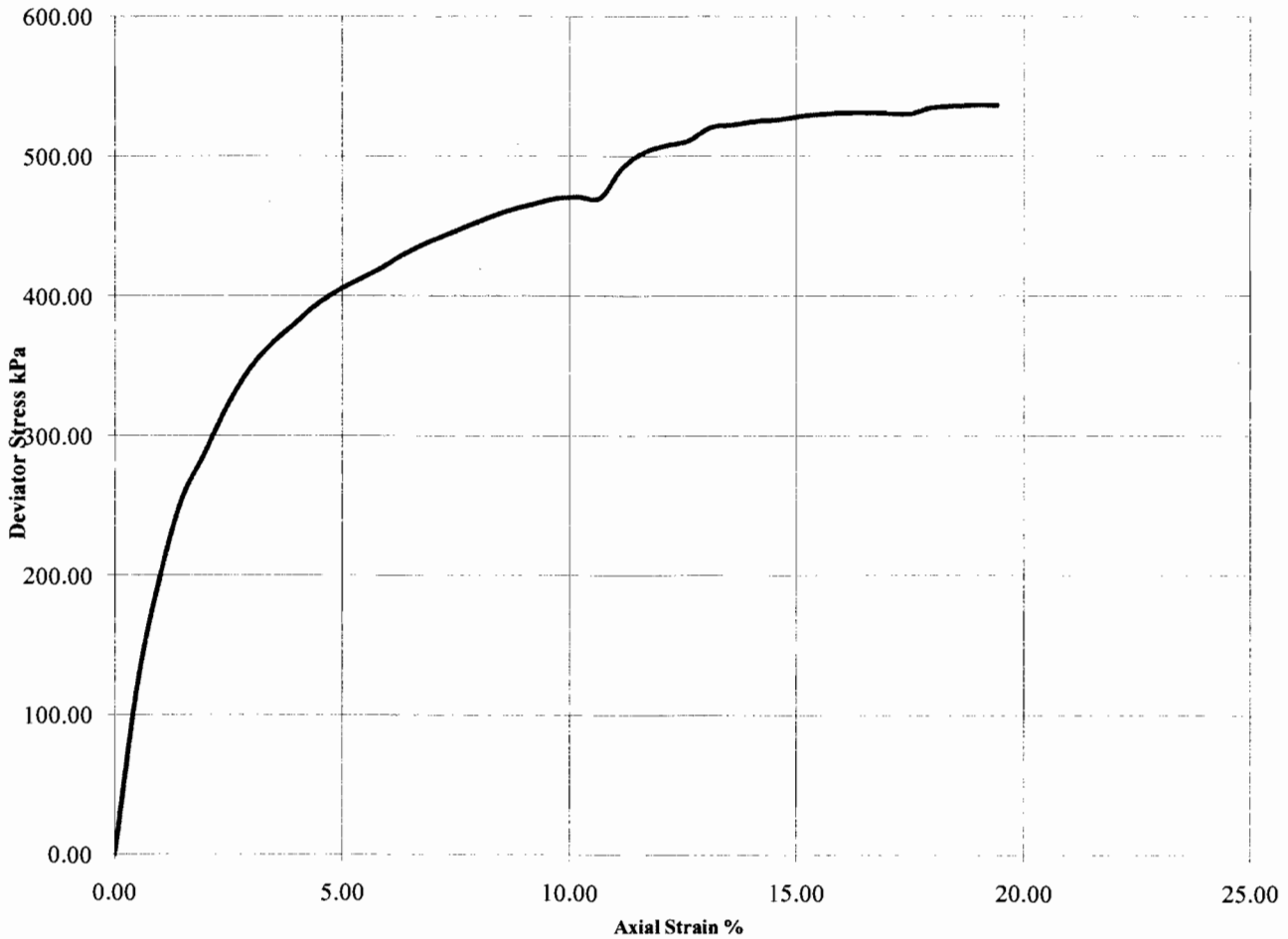
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH4 Sample Number: **9**

Depth (m): **7.50-7.95**



Diameter (mm):		102	Height (mm):		206	Test:			100mm Multistage
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	18	2.15	1.82	80	471	235	10.2	compound	
				160	531	266	16.5		
				320	536	268	18.9		

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Undrained Shear Strength in Triaxial Compression

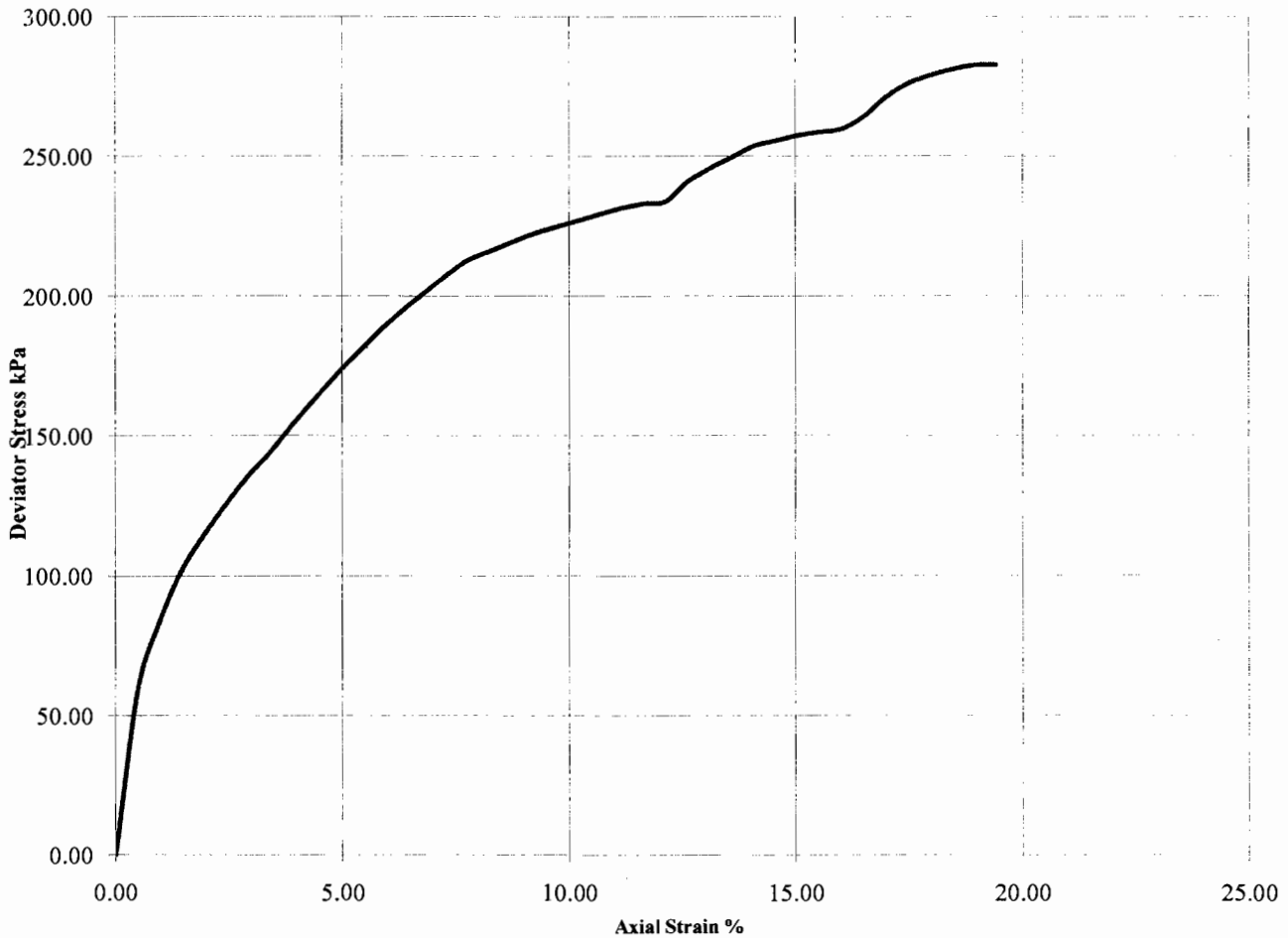
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH5 Sample Number: 11

Depth (m): 3.40-3.85



Diameter (mm):		102		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	18	2.09	1.77	40	234	117	12.1	compound			
				80	260	130	16.0				
				160	283	141	19.4				

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Undrained Shear Strength in Triaxial Compression

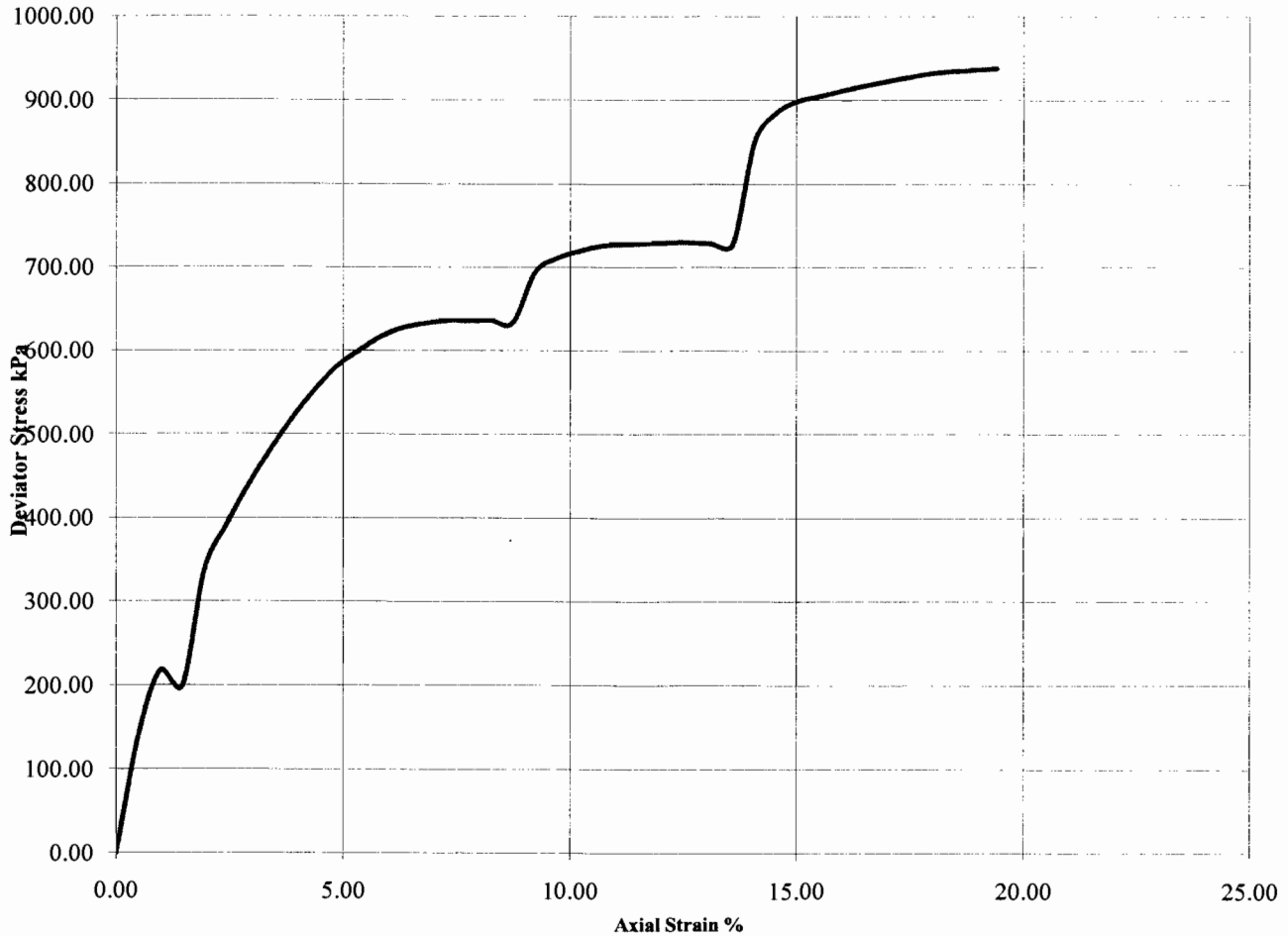
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH5 Sample Number: **20**

Depth (m): **8.00-8.45**



Diameter (mm):		100		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	19	2.11	1.78	100	636	318	8.3	compound			
				200	730	365	12.6				
				400	938	469	19.4				

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Undrained Shear Strength in Triaxial Compression

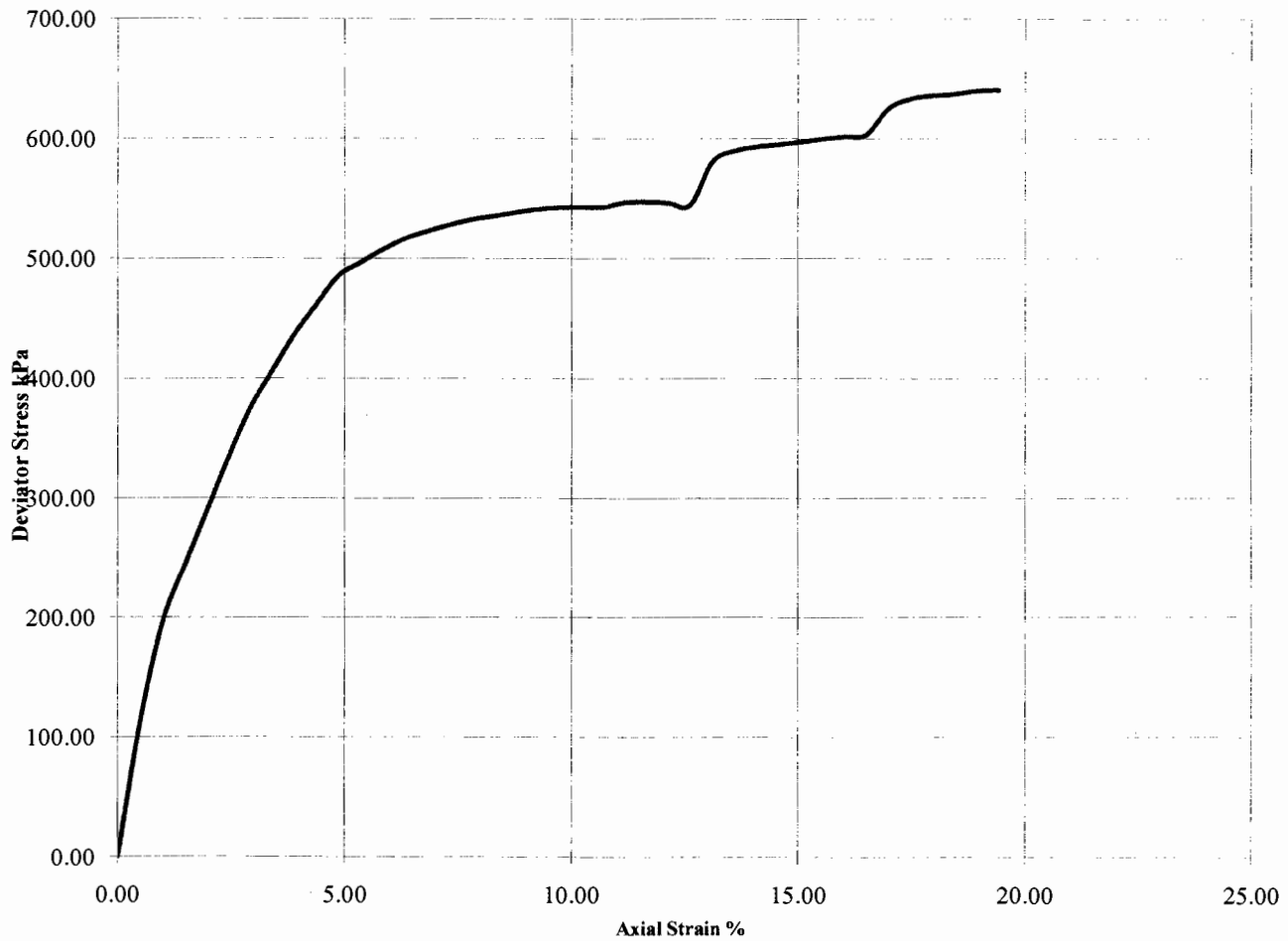
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH6 Sample Number: 22

Depth (m): 8.70-9.15



Diameter (mm):		102		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	16	2.07	1.79	90	547	274	11.7	compound			
				180	604	302	16.5				
				360	641	320	19.4				

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Undrained Shear Strength in Triaxial Compression

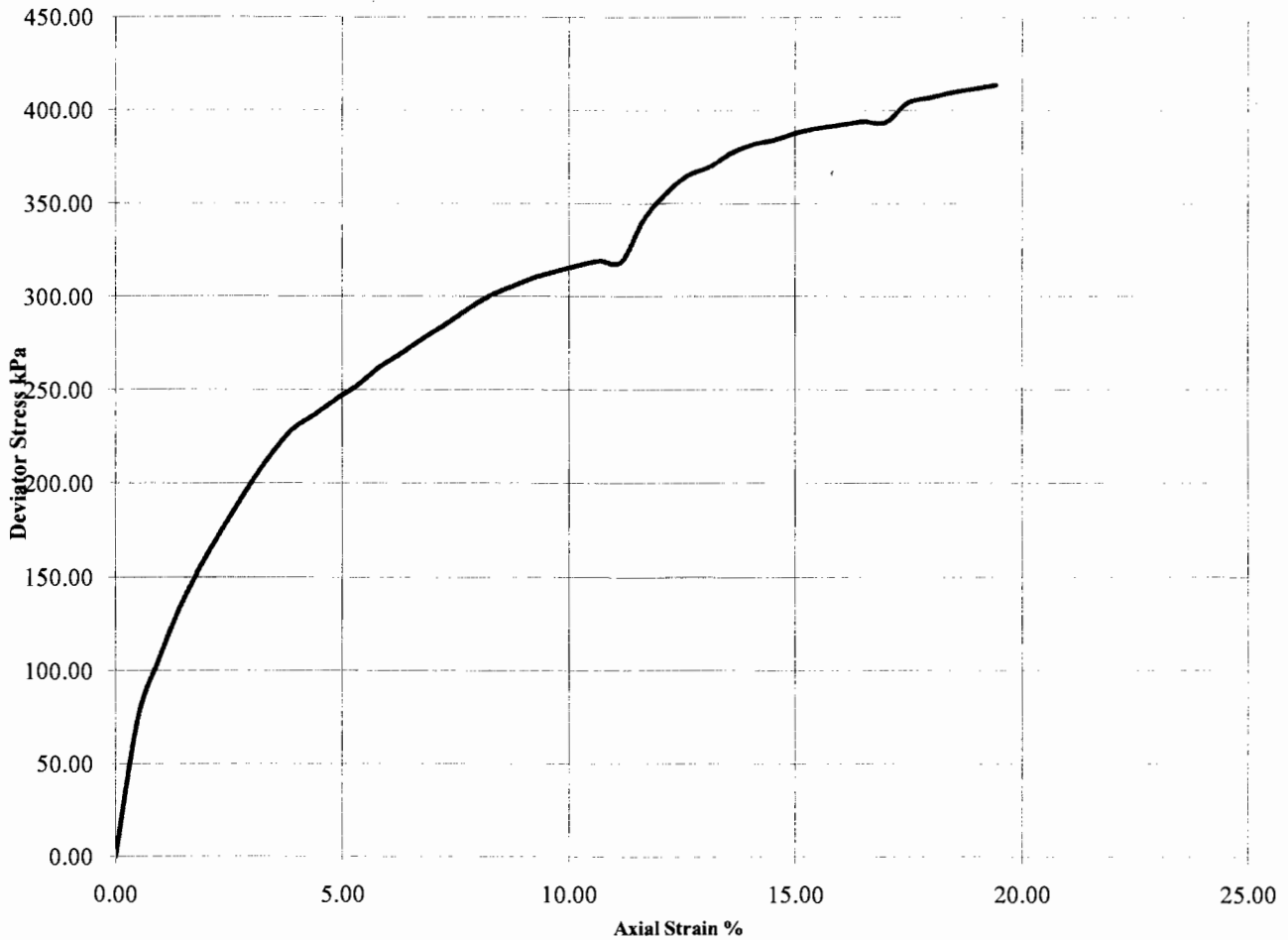
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH8 Sample Number: **9**

Depth (m): **3.30-3.75**



Diameter (mm):		102		Height (mm):		206		Test:		100mm Multistage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure				
A	21	2.09	1.74	35	319	160	10.7	compound				
				70	394	197	16.5					
				140	414	207	19.4					

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Undrained Shear Strength in Triaxial Compression

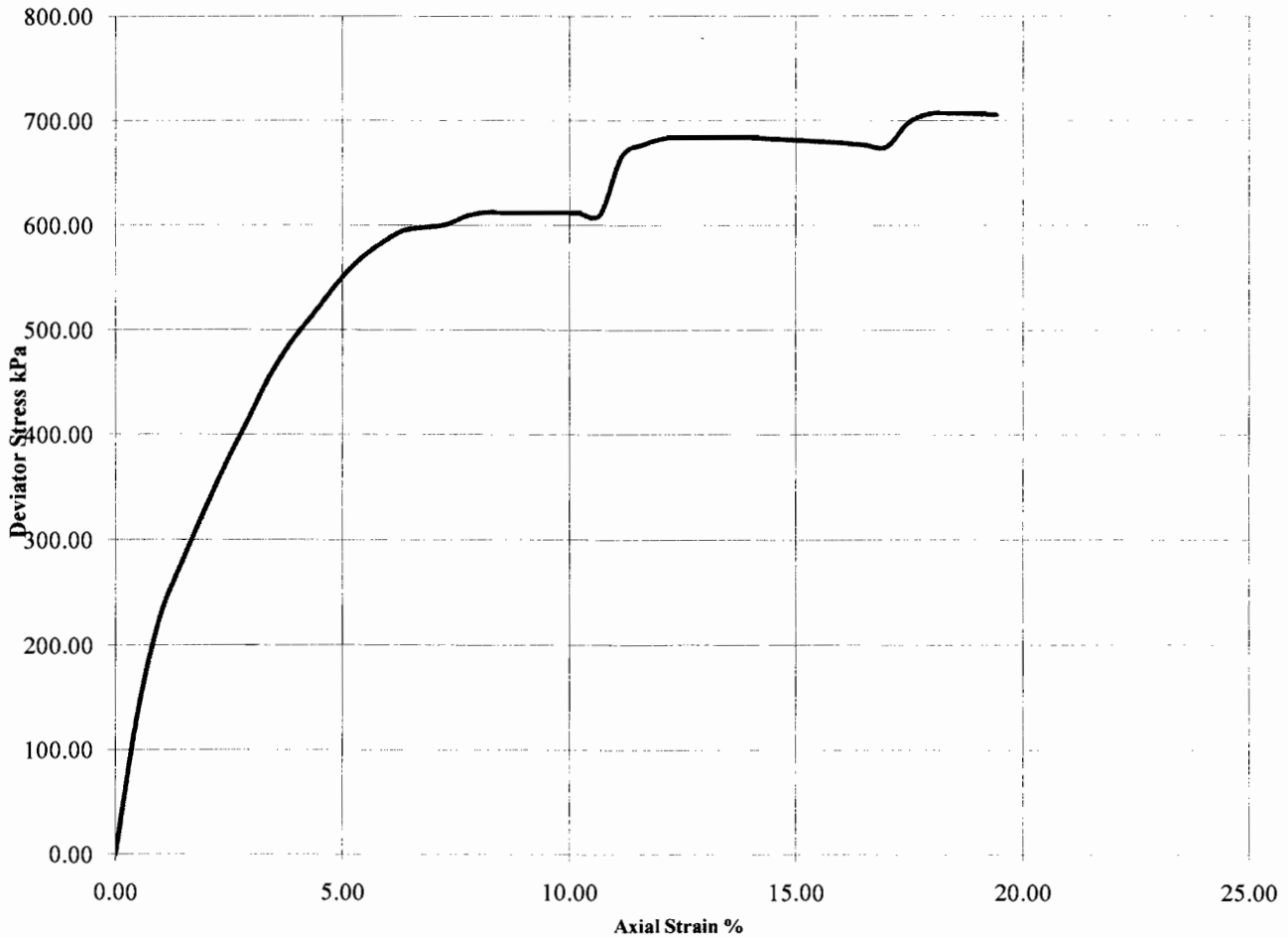
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH8 Sample Number: **25**

Depth (m): **14.00-14.45**



Diameter (mm):		102		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	29	2.15	1.66	142	613	306	8.3	compound			
				284	684	342	13.6				
				568	707	354	18.4				

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Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

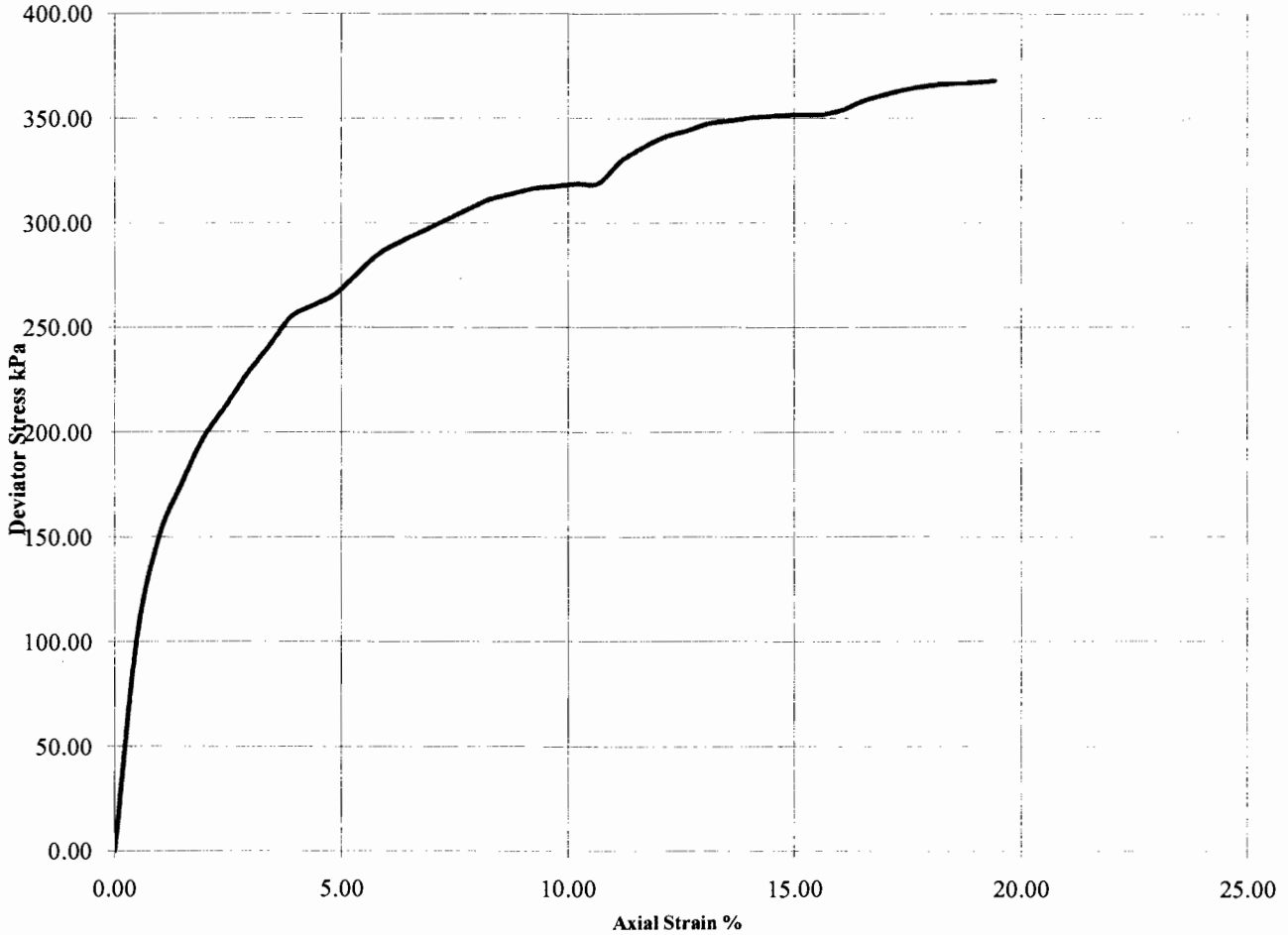
B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH10 Sample Number: 5

Depth (m):

1.80-2.25



Diameter (mm):		102		Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	23	2.16	1.76	20	319	160	10.7	compound			
				40	352	176	15.0				
				80	368	184	19.4				

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Undrained Shear Strength in Triaxial Compression

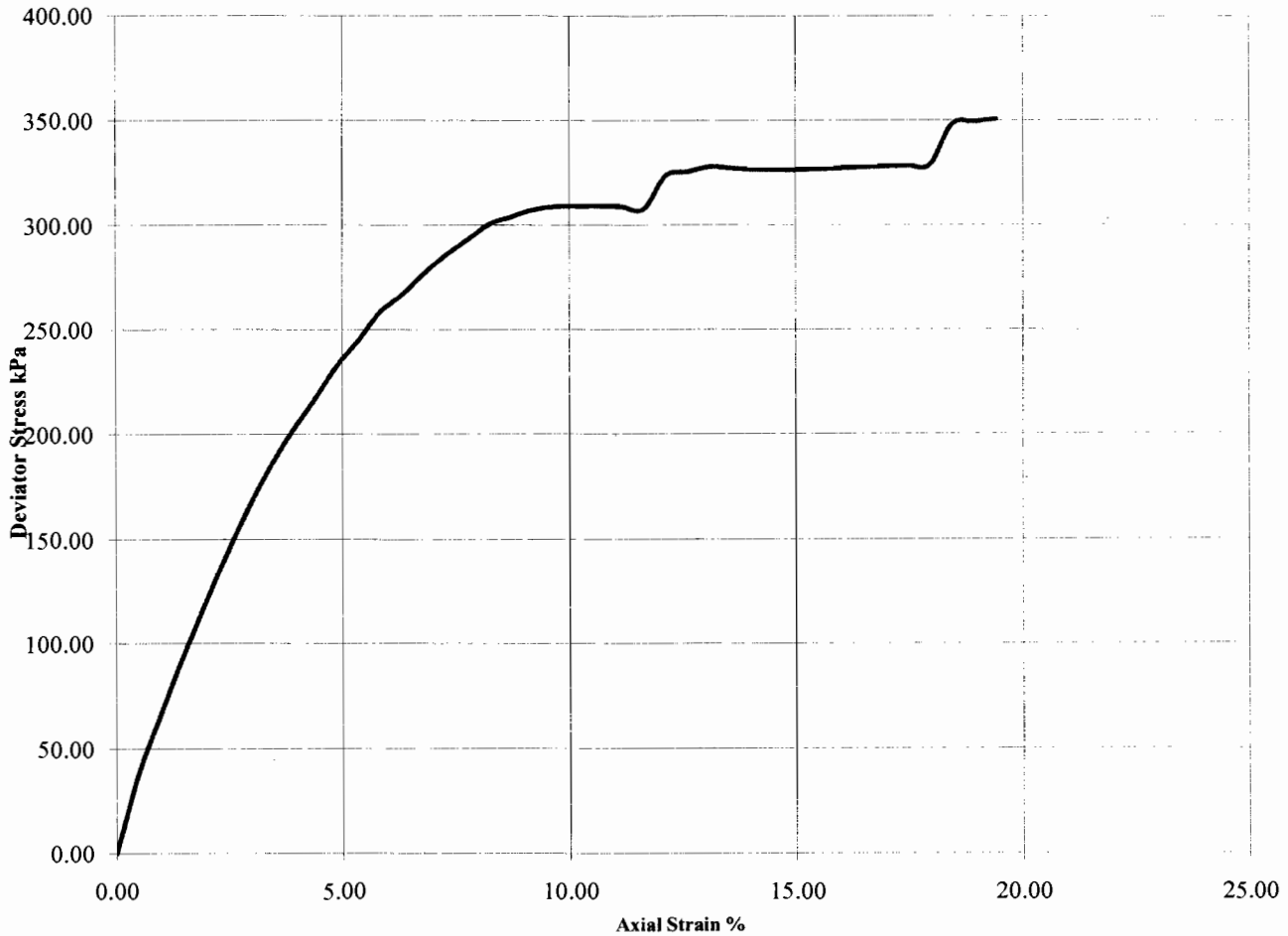
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH10 Sample Number: **9**

Depth (m): **4.00-4.45**



Diameter (mm):		Height (mm):			Test:		100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	14	2.27	1.99	50	309	155	10.7	compound	
				100	329	164	18.0		
				200	351	175	19.4		

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Undrained Shear Strength in Triaxial Compression

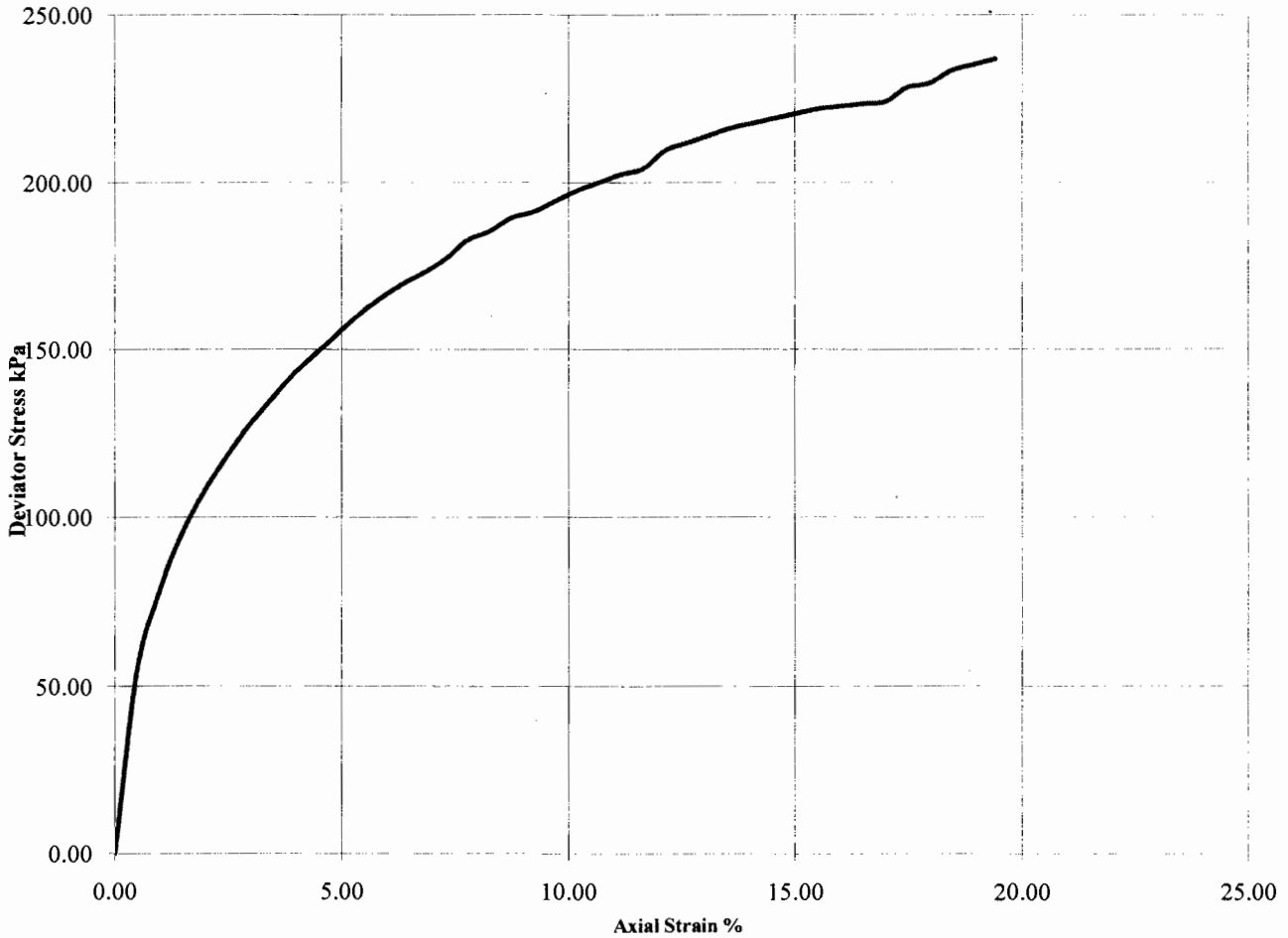
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH14 Sample Number: **6**

Depth (m): **3.00-3.45**



Diameter (mm):		102	Height (mm):		206	Test:				100mm Multistage
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks	
A	21	2.23	1.84	40	204	102	11.7	compound		
				80	224	112	17.0			
				160	237	118	19.4			

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Undrained Shear Strength in Triaxial Compression

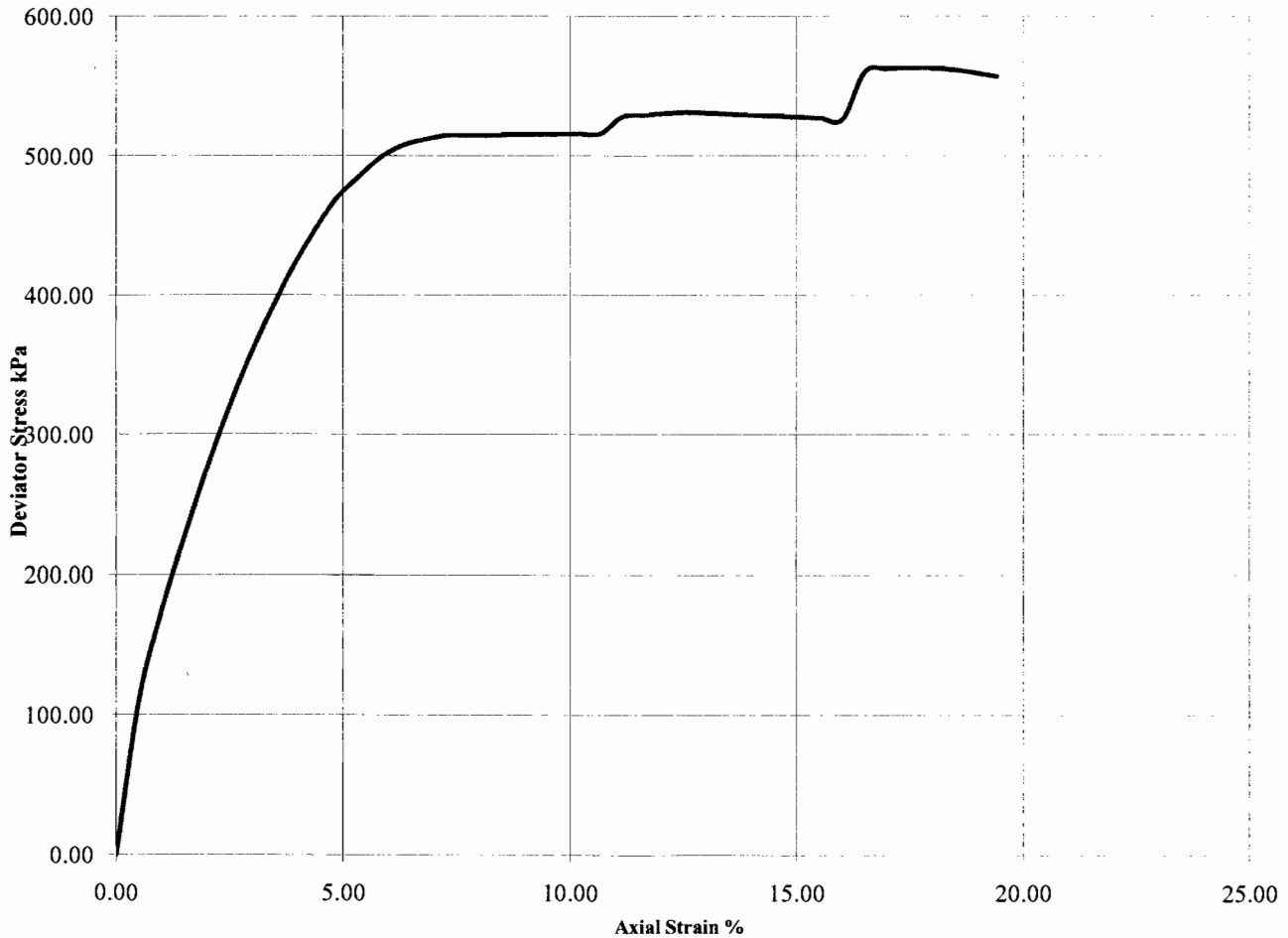
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH14 Sample Number: **19**

Depth (m): **9.00-9.45**



Diameter (mm):		100			Height (mm):		206		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks			
A	16	2.05	1.76	100	516	258	10.7	compound				
				200	531	266	12.6					
				400	563	282	17.5					

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Undrained Shear Strength in Triaxial Compression

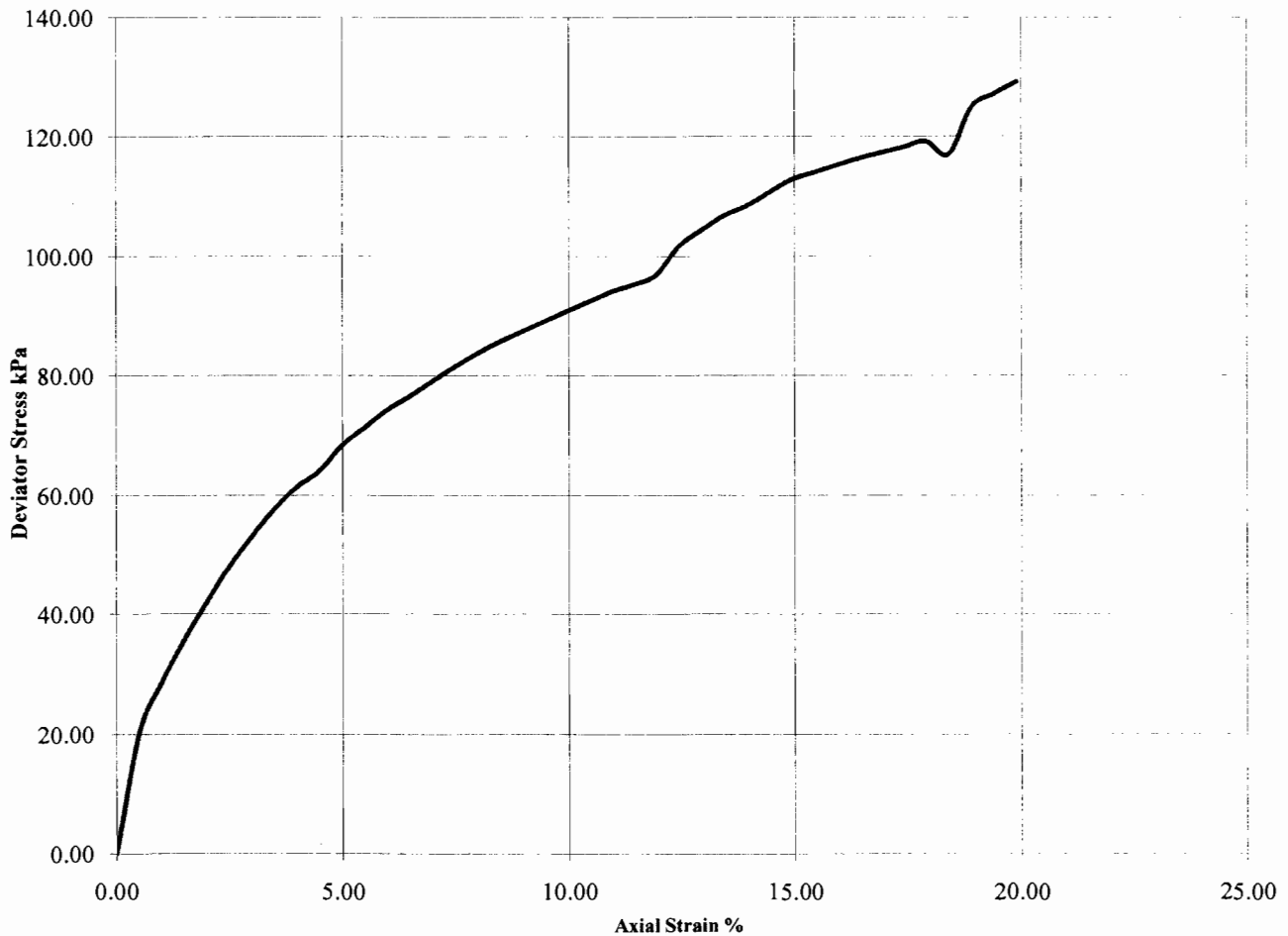
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH16 Sample Number: **6**

Depth (m): **2.00-2.45**



Diameter (mm):		100		Height (mm):		201		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	17	2.28	1.94	25	97	48	11.9	compound			
				50	119	60	17.9				
				100	129	65	19.9				

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Summary of Laboratory Sample Descriptions

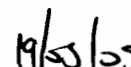
Hole Number	Sample Number	Type	Depth (m)	Description of Sample*
BH1	14	B	6.20-6.70	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH2	8	U	2.00-2.45	Brown silty CLAY.
BH3	3	B	0.90-1.20	Brown gravelly sandy (fine to coarse) silty CLAY.
BH3	8	U	2.90-3.35	Brown gravelly silty CLAY.
BH3	10	B	3.50-4.00	Brown slightly gravelly silty clayey (fine to coarse) SAND.
BH6	13	B	4.60-5.10	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH7B	1	U	0.50-1.00	Brown silty clayey gravelly (fine to coarse) SAND.
BH7B	16	U	5.00-5.75	Brown silty CLAY.
BH7B	21	B	7.50-8.00	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH7B	23	U	9.00-9.45	Brown silty clayey gravelly (fine to coarse) SAND.
BH8	17	B	8.00-8.50	Brown gravelly silty CLAY.
BH9	2+3	B	0.60-1.10	Brown gravelly silty clayey (fine to coarse) SAND.
BH9	18	U	6.00-6.45	Brown gravelly silty CLAY.
BH9	34	U	15.00-15.45	Brown silty clayey gravelly (fine to coarse) SAND.
BH11/WS6	17	B	3.10-3.55	Brown gravelly silty CLAY.
BH11/WS6	17	U	5.60-6.20	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH12	10	U	3.10-3.55	Brown gravelly silty CLAY.
BH12	13	B	4.00-4.50	Brown slightly gravelly silty clayey (fine to coarse) SAND.
BH12	15	U	5.10-5.55	Brown silty CLAY.
BH13	6	B	1.90-2.30	Brown silty clayey sandy (fine to coarse) GRAVEL.
BH13	9	U	2.60-3.05	Brown gravelly silty CLAY.
BH13	16	U	5.00-5.45	Brown gravelly silty CLAY.
BH13	20	B	6.50-7.00	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH13	22	U	8.00-8.45	Brown gravelly silty CLAY.
BH15	11	B	3.50-4.00	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH15	14	U	5.00-5.45	Brown gravelly silty CLAY.
BH17	1+2	B	0.50-1.00	Brown silty clayey sandy (fine to coarse) GRAVEL with few cobbles.
BH17	9	U	3.00-3.45	Brown silty CLAY.
BH17	12	B	4.50-5.00	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH18A	8	U	2.80-3.25	Brown gravelly silty CLAY.
BH19	8	U	3.10-3.55	Brown gravelly silty CLAY.
BH19	11	B	4.50-5.00	Brown slightly gravelly sandy (fine to coarse) silty CLAY.
BH20	7	U	3.20-3.65	Brown silty CLAY.
TP1		B	0.50-1.00	Brown silty clayey sandy (fine to coarse) GRAVEL.

Note: Results on this table are in summary format and may not meet the requirements of the relevant standards, additional information is held by the laboratory


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LABORATORY TESTING SERVICES LIMITED

Lostock Works Cheshire

Contract No.:

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Client ref:

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Summary of Soil Classification Tests

BS 1377:Part 2:1990

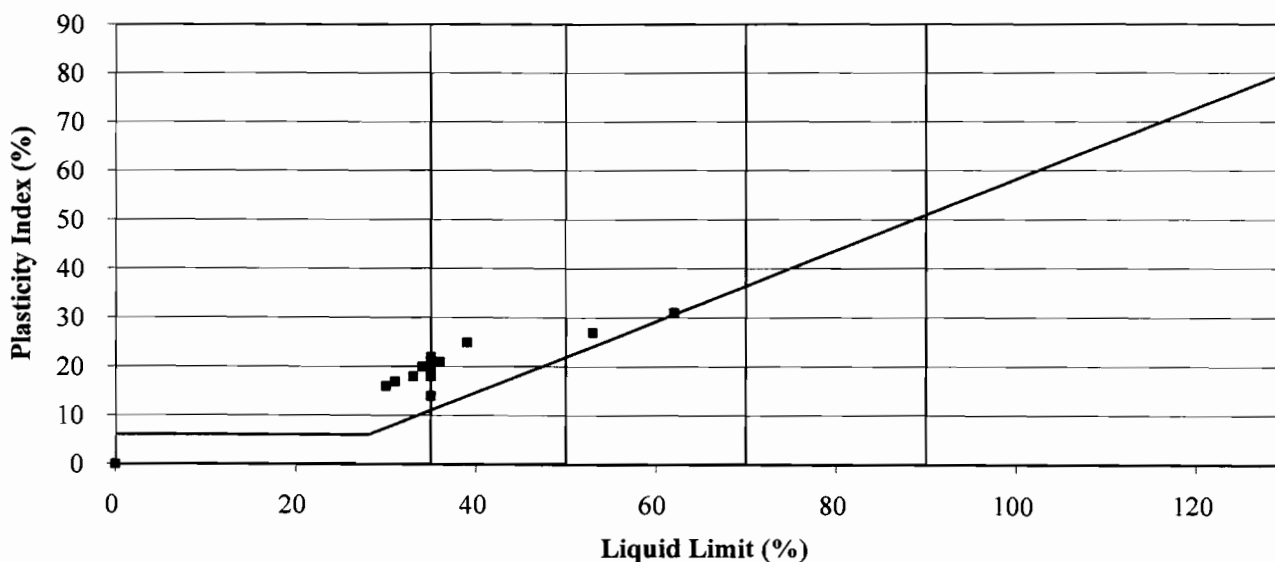
Hole/ Sample Number	Sample Type	Depth m	Moisture	Liquid	Plastic	Plasticity	% Passing .425mm	Remarks
			Content %	Limit %	Limit %	Index %		
			Cl. 3.2	Cl. 4.3/4.4	Cl. 5.	Cl. 6.		
BH2/8	U	2.00 - 2.45	22	62	31	31	100	CH High Plasticity
BH3/8	U	2.90 - 3.35	16	53	26	27	94	CH High Plasticity
BH7B/16	U	5.00 - 5.75	11	30	14	16	100	CL Low Plasticity
BH7B/23	U	9.00 - 9.45	11					
BH9/18	U	6.00 - 6.45	13	35	13	22	97	CL/I Low/Inter. Plasticity
BH9/34	U	15.00 - 15.45	12	31	14	17	90	CL Low Plasticity
BH11A/WS6/18	U	3.10 - 3.55	18	34	14	20	95	CL Low Plasticity
BH12/10	U	3.10 - 3.55	11	35	14	21	95	CL/I Low/Inter. Plasticity
BH12/15	U	5.10 - 5.55	12					
BH13/9	U	2.60 - 3.05	13	35	15	20	93	CL/I Low/Inter. Plasticity
BH13/16	U	5.00 - 5.45	14	36	15	21	91	CI Intermediate Plasticity
BH13/22	U	8.00 - 8.45	16	35	21	14	96	CL/I Low/Inter. Plasticity
BH15/14	U	5.00 - 5.45	11	35	17	18	90	CL Low Plasticity
BH17/9	U	3.00 - 3.45	7.8	39	14	25	96	CI Intermediate Plasticity
BH18A/8	U	2.80 - 3.25	10	35	17	18	96	CL Low Plasticity
BH19/8	U	3.10 - 3.55	14	33	15	18	95	CL Low Plasticity

Symbols:

NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



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Lostock Works Cheshire

Contract No.:
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Summary of Soil Classification Tests

BS 1377:Part 2:1990

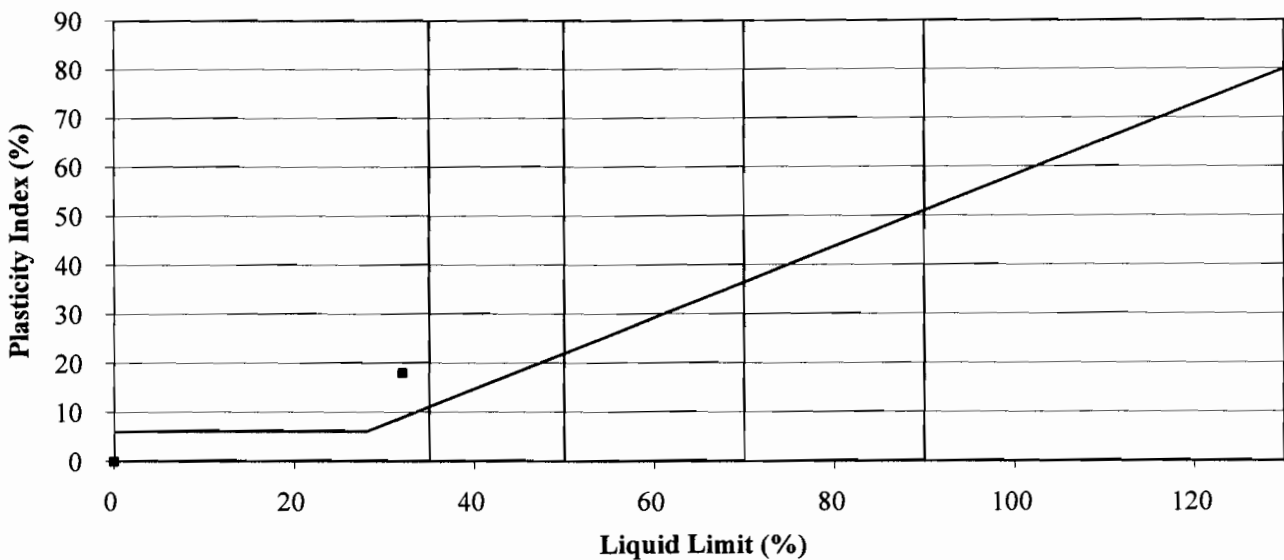
Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
BH20/7	U	3.20 - 3.65	15	32	14	18	94	CL Low Plasticity

Symbols:

NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



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PARTICLE SIZE DISTRIBUTION TEST

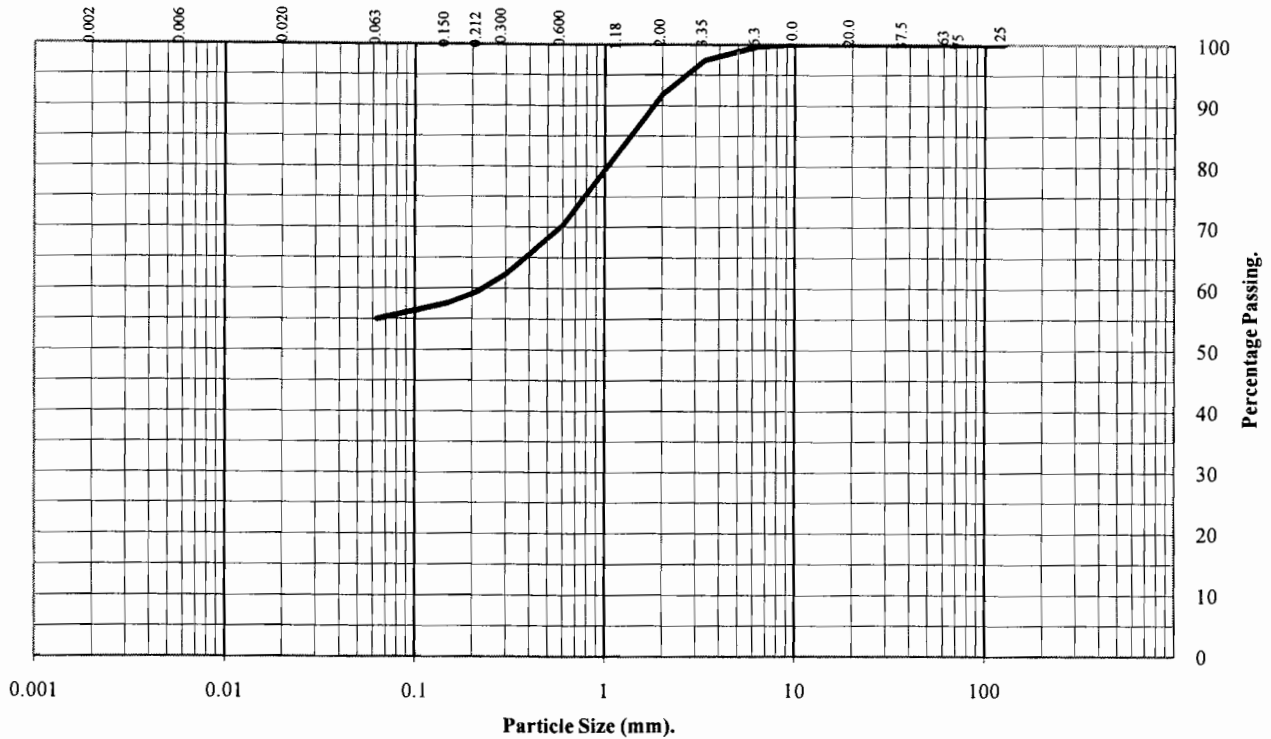
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH1/14**

Type: **B**

Depth (m): **6.20 to 6.70**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	100
3.35	97
2.00	92
1.18	82
0.60	70
0.30	62
0.21	59
0.15	58
0.06	55

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	8
Sand	37
Silt and Clay	55

Remarks:

#- not determined

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Contract No.: 7772/09
Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

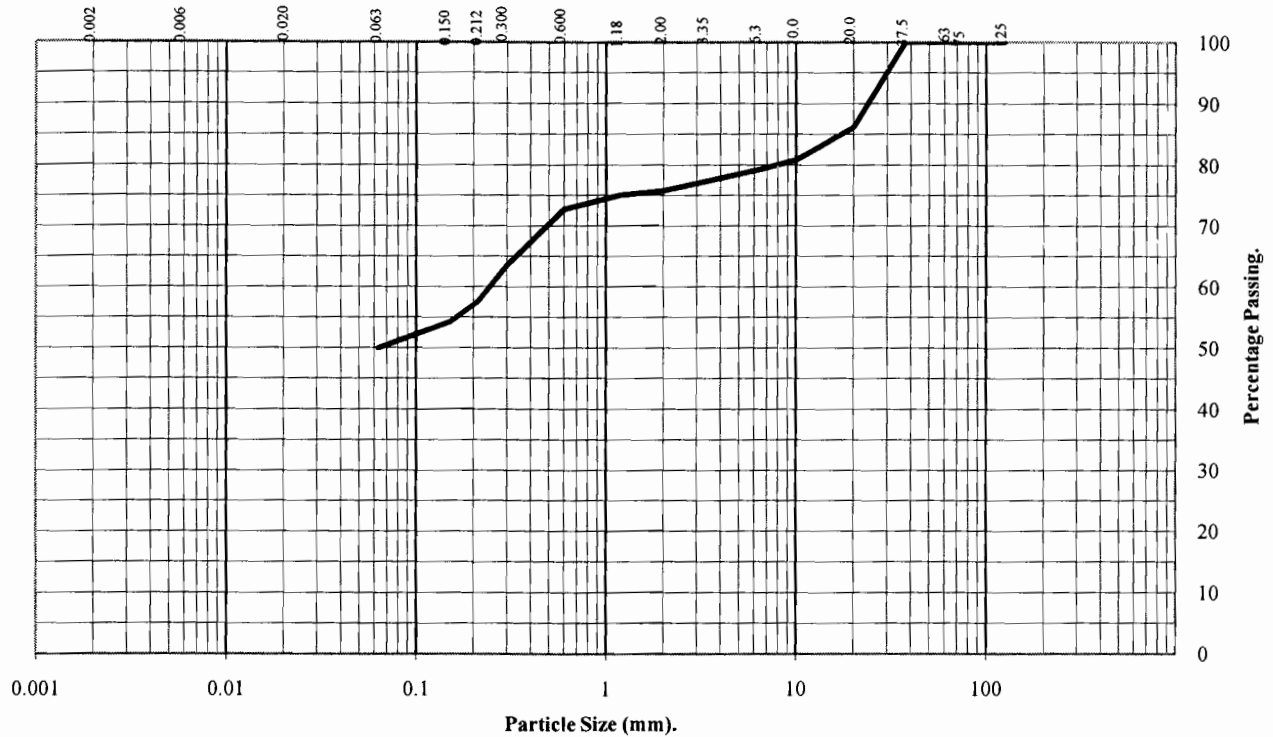
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH3/3**

Type: **B**

Depth (m): **0.90 to 1.20**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	86
10	81
6.3	79
3.35	77
2.00	76
1.18	75
0.60	73
0.30	64
0.21	58
0.15	54
0.06	50

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	24
Sand	26
Silt and Clay	50

Remarks:

#- not determined

Checked by *[Signature]* Date *19/08/09*

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Lostock Works Cheshire

Contract No.: 7772/09
Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

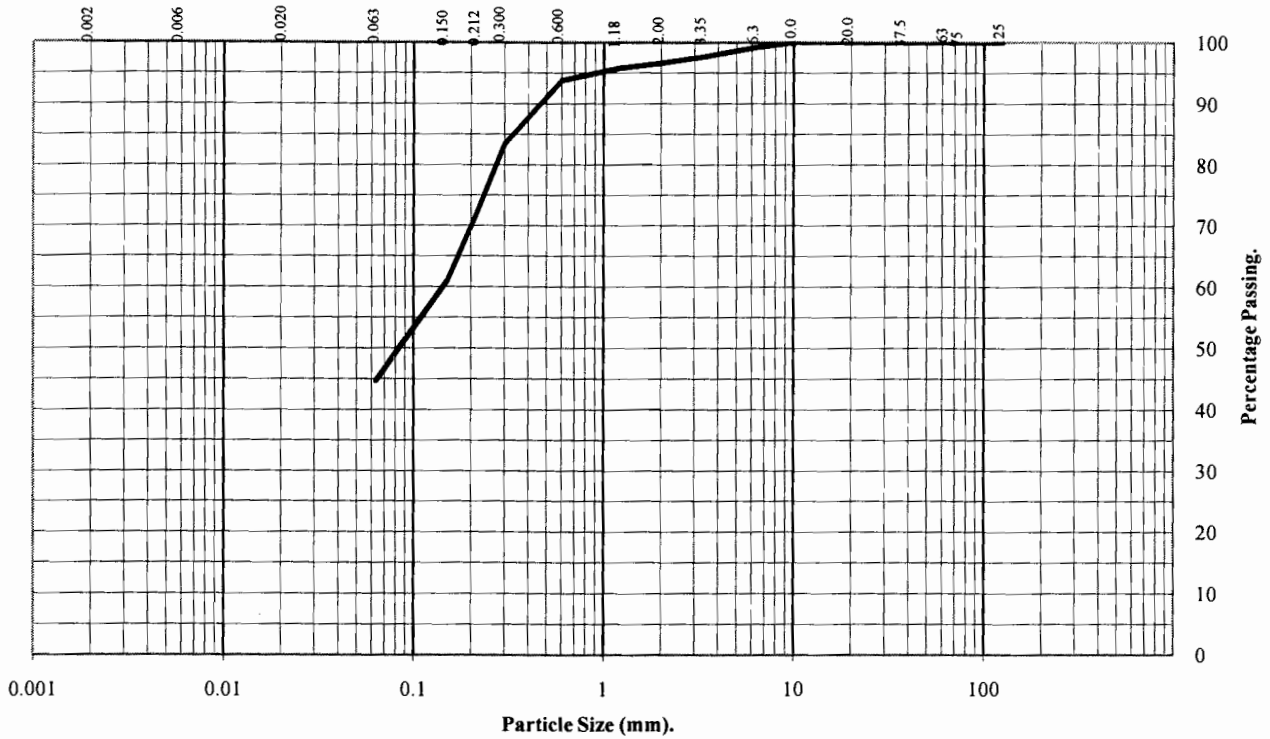
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH3/10**

Type: **B**

Depth (m): **3.50 to 4.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	99
3.35	98
2.00	97
1.18	96
0.60	94
0.30	83
0.21	72
0.15	61
0.06	45

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	52
Silt and Clay	45

Remarks:

#- not determined

Checked by *[Signature]* Date *19/5/09*

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LABORATORY TESTING SERVICES LIMITED
GEO/104-2 Dec 05

Lostock Works Cheshire

Issue No 1.2

Contract No.: 7772/09
Client Ref No: 10104/VE059:



PARTICLE SIZE DISTRIBUTION TEST

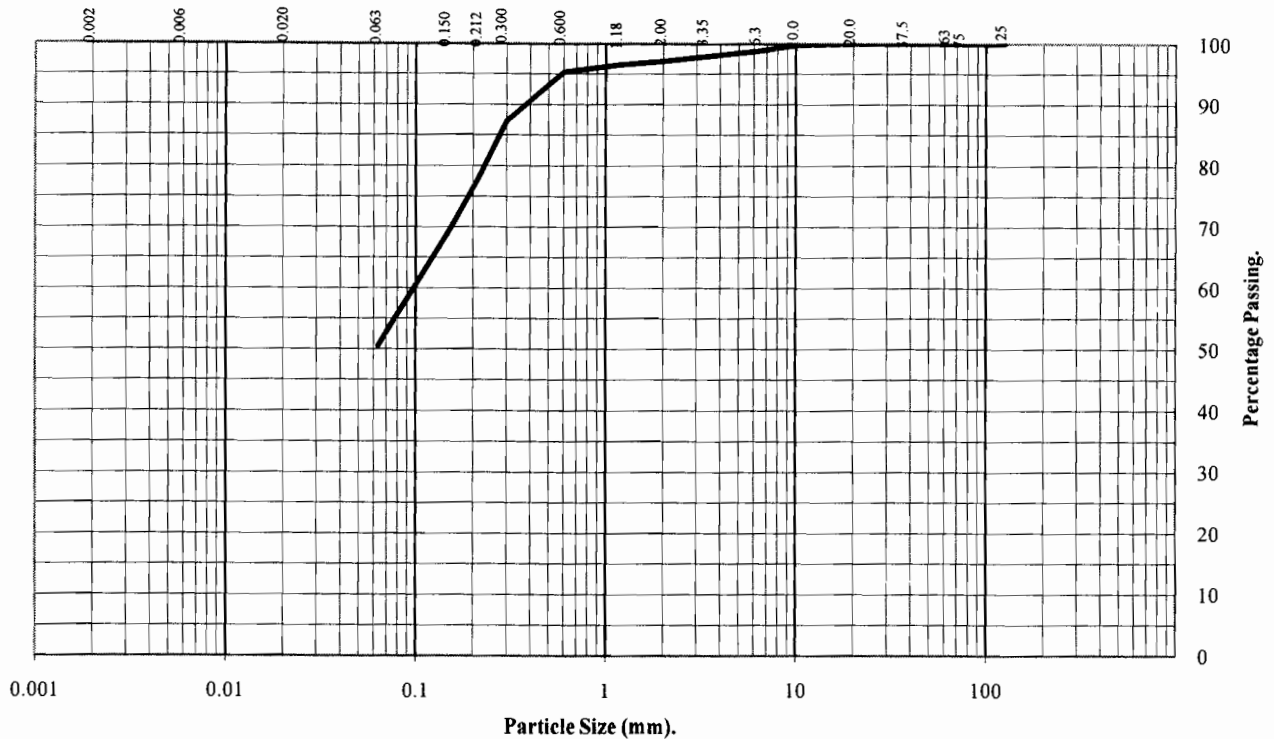
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH6/13**

Type: **B**

Depth (m): **4.60 to 5.10**



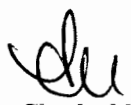
BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	99
3.35	98
2.00	97
1.18	97
0.60	95
0.30	87
0.21	78
0.15	69
0.06	51

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#


Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	46
Silt and Clay	51

Remarks:

- not determined



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Client Ref No: 10104/VE059!



PARTICLE SIZE DISTRIBUTION TEST

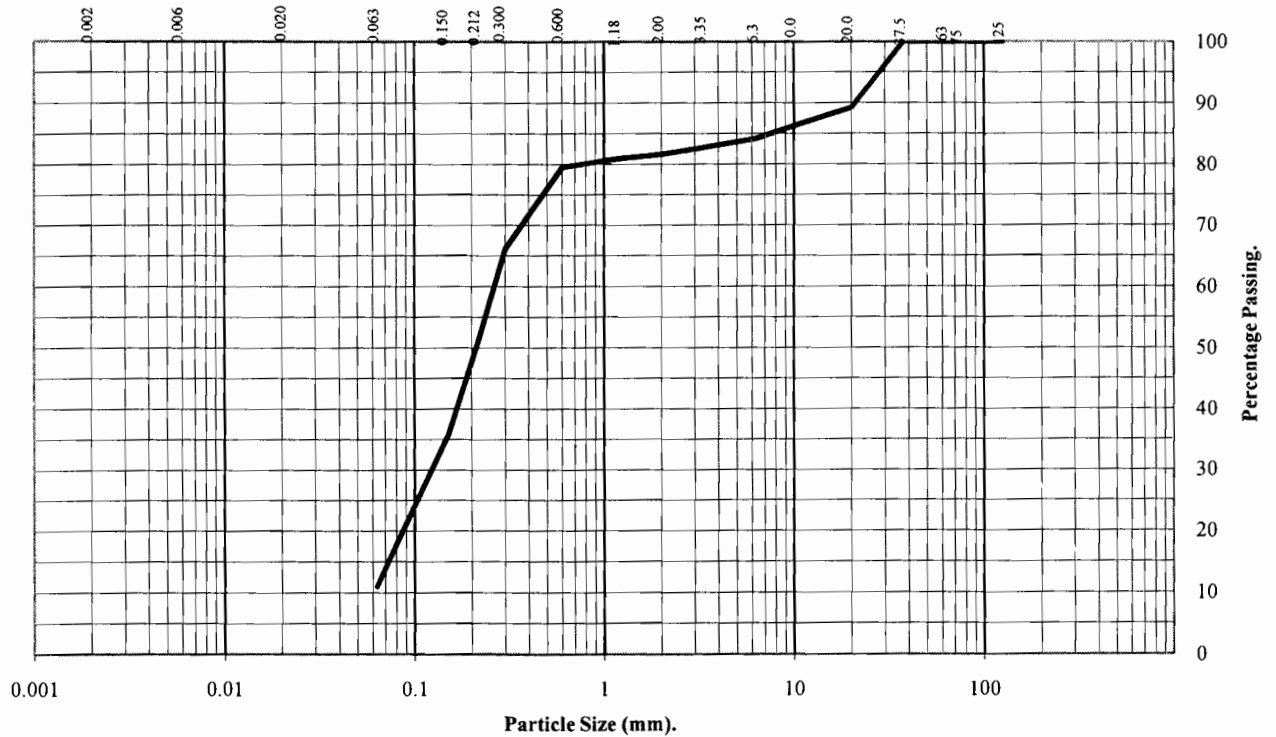
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH7B/1**

Type: **B**

Depth (m): **0.50 to 1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	89
10	86
6.3	84
3.35	83
2.00	82
1.18	81
0.60	80
0.30	66
0.21	50
0.15	36
0.06	11

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	18
Sand	71
Silt and Clay	11

Remarks:

#- not determined

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PARTICLE SIZE DISTRIBUTION TEST

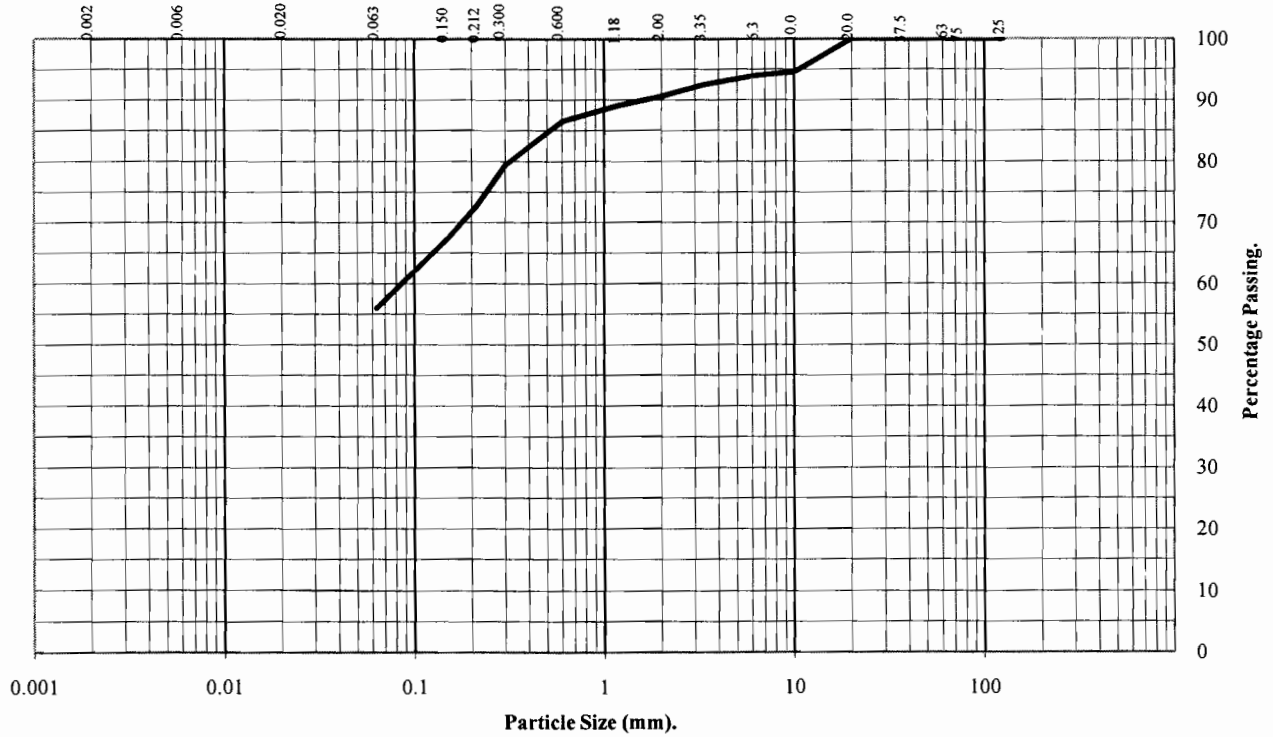
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH7b/21**

Type: **B**

Depth (m): **7.50 to 8.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	95
6.3	94
3.35	92
2.00	91
1.18	89
0.60	87
0.30	79
0.21	73
0.15	67
0.06	56

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	9
Sand	35
Silt and Clay	56

Remarks:

#- not determined

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Issue No 1.2

Contract No.: 7772/09
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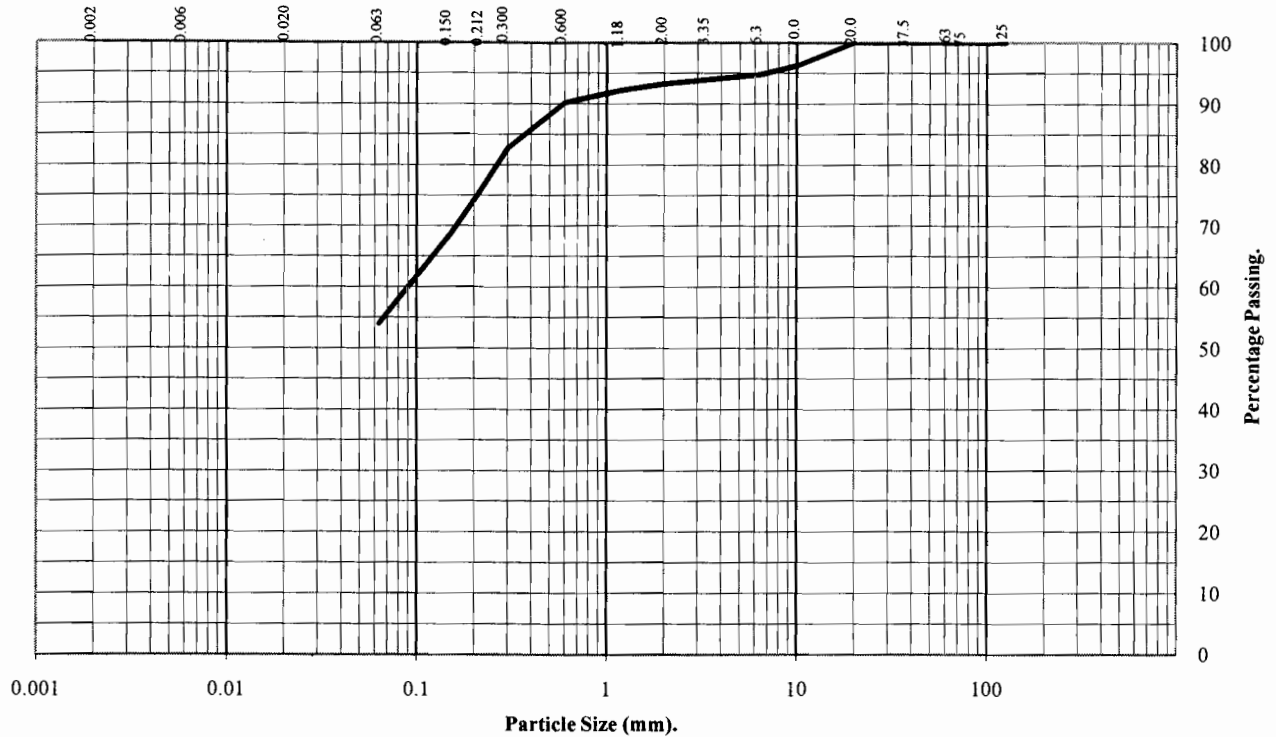
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PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH8/17** Type: **B** Depth (m): **8.00** to **8.50**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	96
6.3	95
3.35	94
2.00	93
1.18	92
0.60	90
0.30	83
0.21	75
0.15	69
0.06	54

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	7
Sand	39
Silt and Clay	54

Remarks:

#- not determined

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PARTICLE SIZE DISTRIBUTION TEST

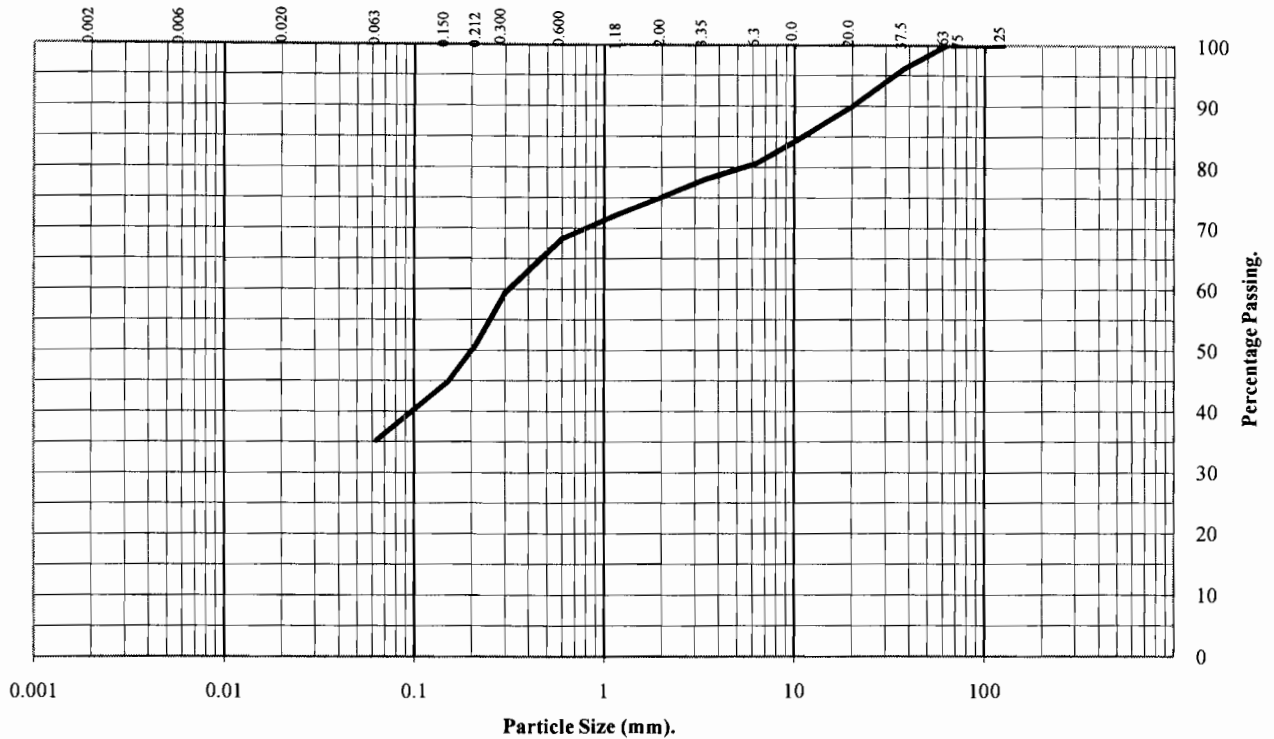
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH9/2+3**

Type: **B**

Depth (m): **0.60 to 1.10**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	96
20	90
10	84
6.3	81
3.35	78
2.00	75
1.18	72
0.60	68
0.30	59
0.21	51
0.15	45
0.06	35

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

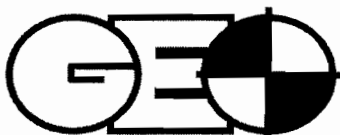
Soil Fraction	Total Percentage
Cobbles	0
Gravel	25
Sand	40
Silt and Clay	35

Remarks:

#- not determined

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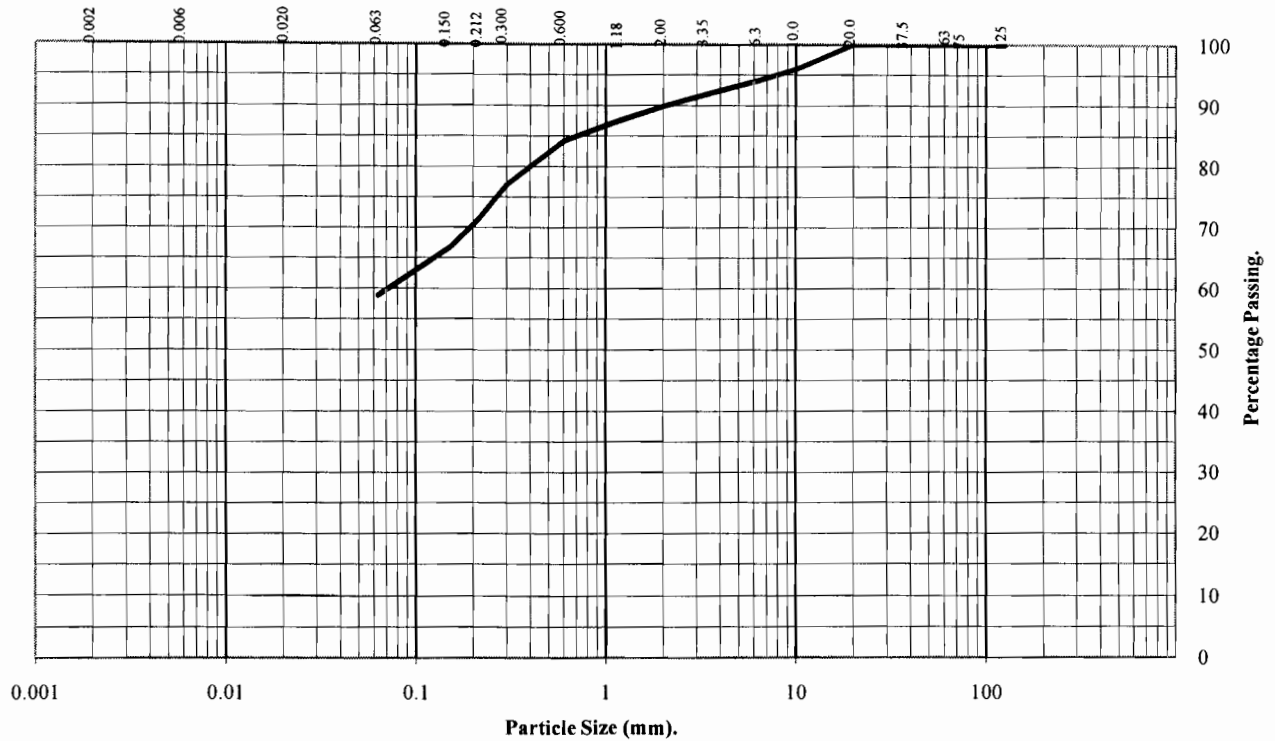
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: BH11A/WS6/17

Type: B

Depth (m): 5.60 to 6.20



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	96
6.3	94
3.35	92
2.00	90
1.18	88
0.60	84
0.30	77
0.21	71
0.15	67
0.06	59

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	10
Sand	31
Silt and Clay	59

Remarks:

#- not determined

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PARTICLE SIZE DISTRIBUTION TEST

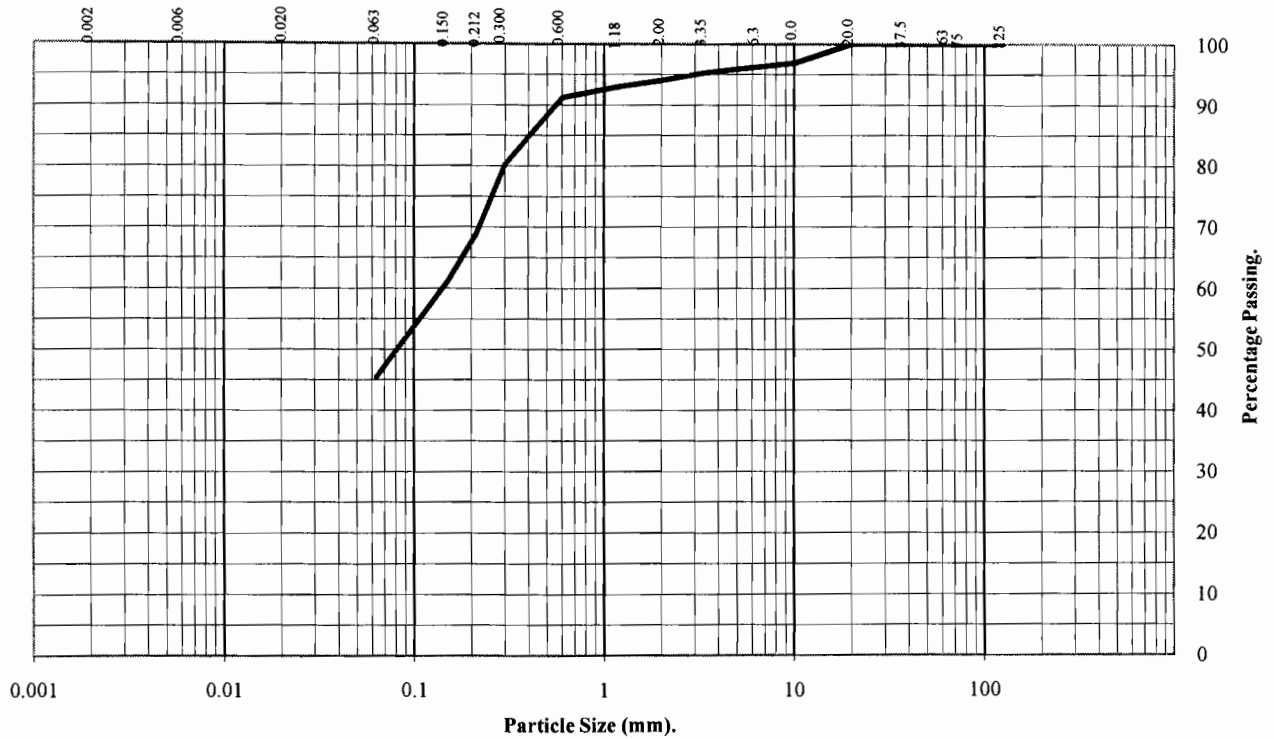
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH12/13**

Type: **B**

Depth (m): **4.00 to 4.50**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	97
6.3	96
3.35	95
2.00	94
1.18	93
0.60	91
0.30	80
0.21	69
0.15	61
0.06	45

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	49
Silt and Clay	45

Remarks:
#- not determined

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PARTICLE SIZE DISTRIBUTION TEST

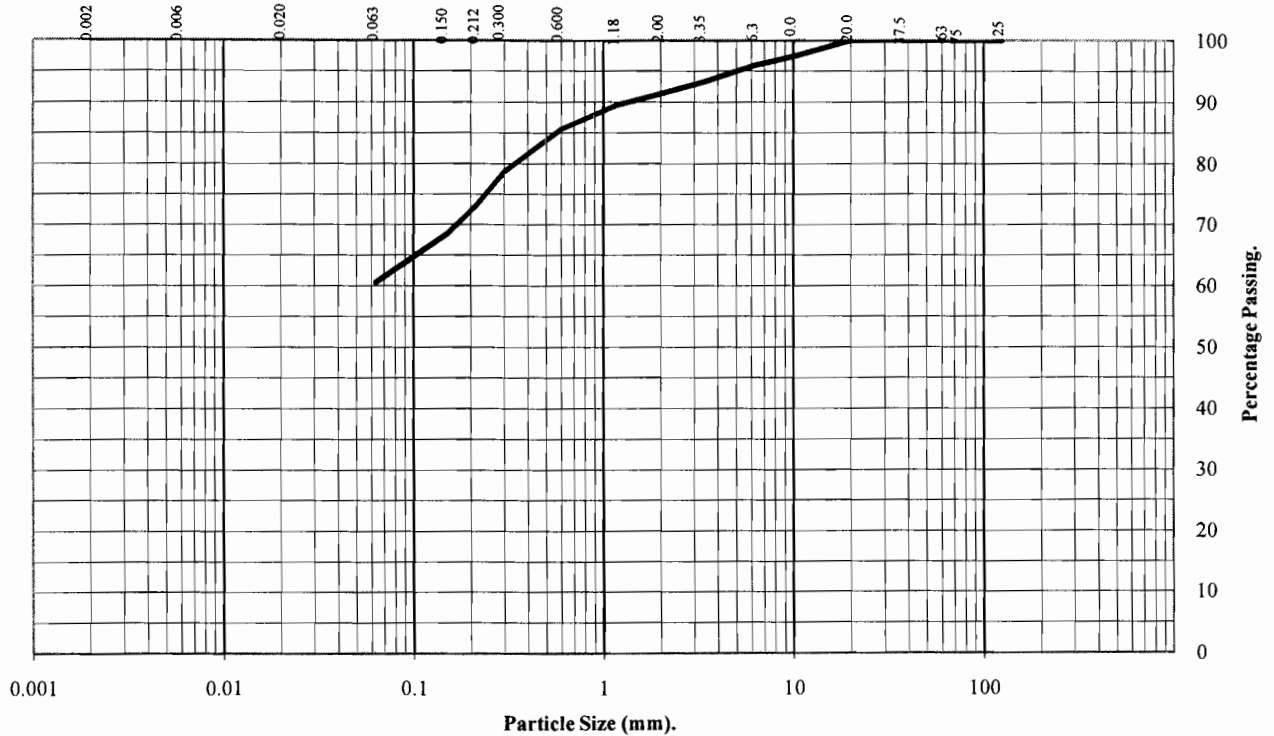
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH13/20**

Type: **B**

Depth (m): **6.50 to 7.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	97
6.3	96
3.35	93
2.00	91
1.18	90
0.60	86
0.30	79
0.21	73
0.15	68
0.06	61

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	9
Sand	30
Silt and Clay	61

Remarks:

#- not determined

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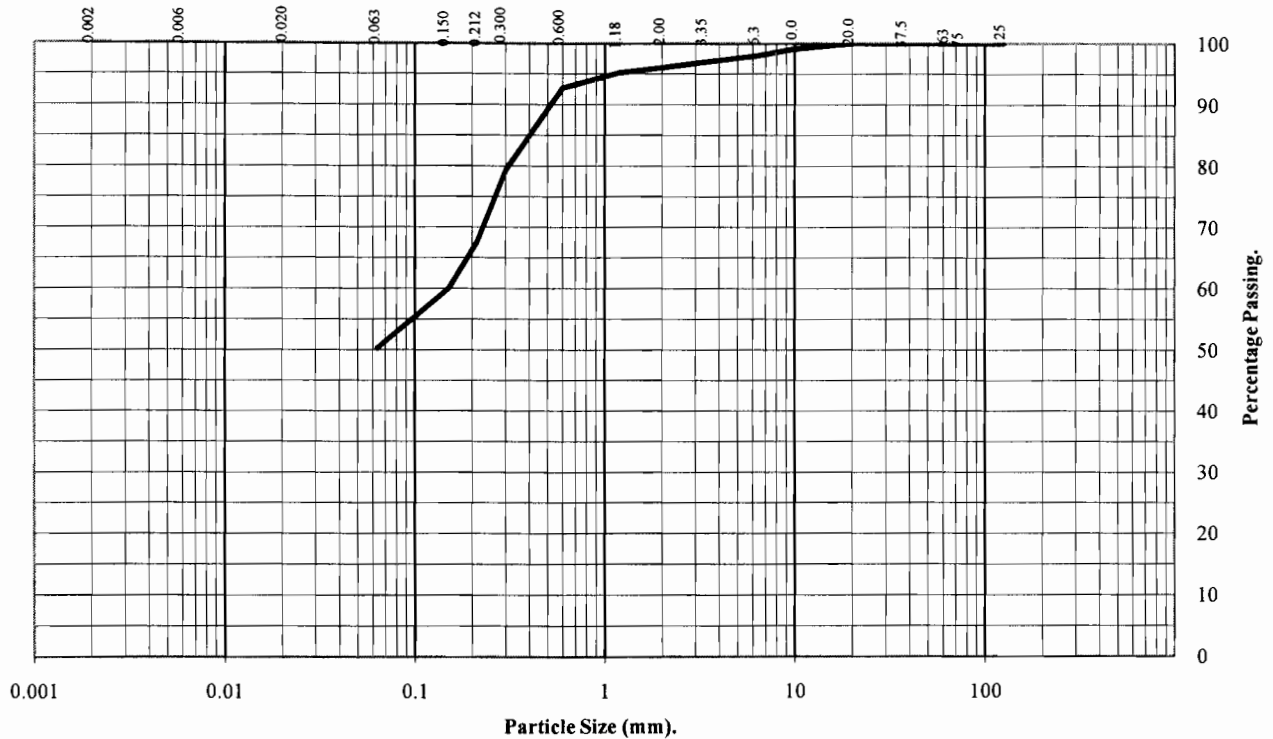
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH15/11**

Type: **B**

Depth (m): **3.50 to 4.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	99
6.3	98
3.35	97
2.00	96
1.18	95
0.60	93
0.30	79
0.21	68
0.15	60
0.06	50

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	4
Sand	46
Silt and Clay	50

Remarks:

#- not determined

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PARTICLE SIZE DISTRIBUTION TEST

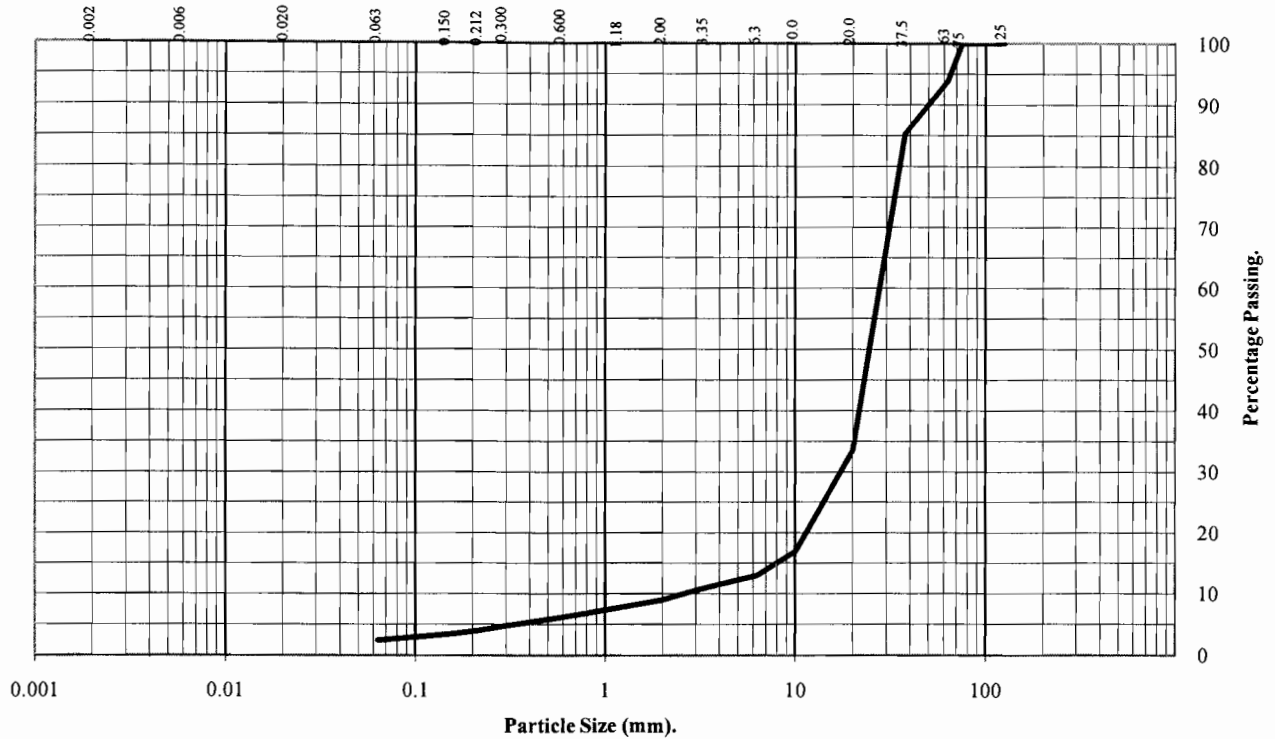
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH17/1+2**

Type: **B**

Depth (m): **0.50 to 1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	94
38	85
20	33
10	17
6.3	13
3.35	11
2.00	9
1.18	8
0.60	6
0.30	5
0.21	4
0.15	3
0.06	2

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	6
Gravel	85
Sand	7
Silt and Clay	2

Remarks:

#- not determined

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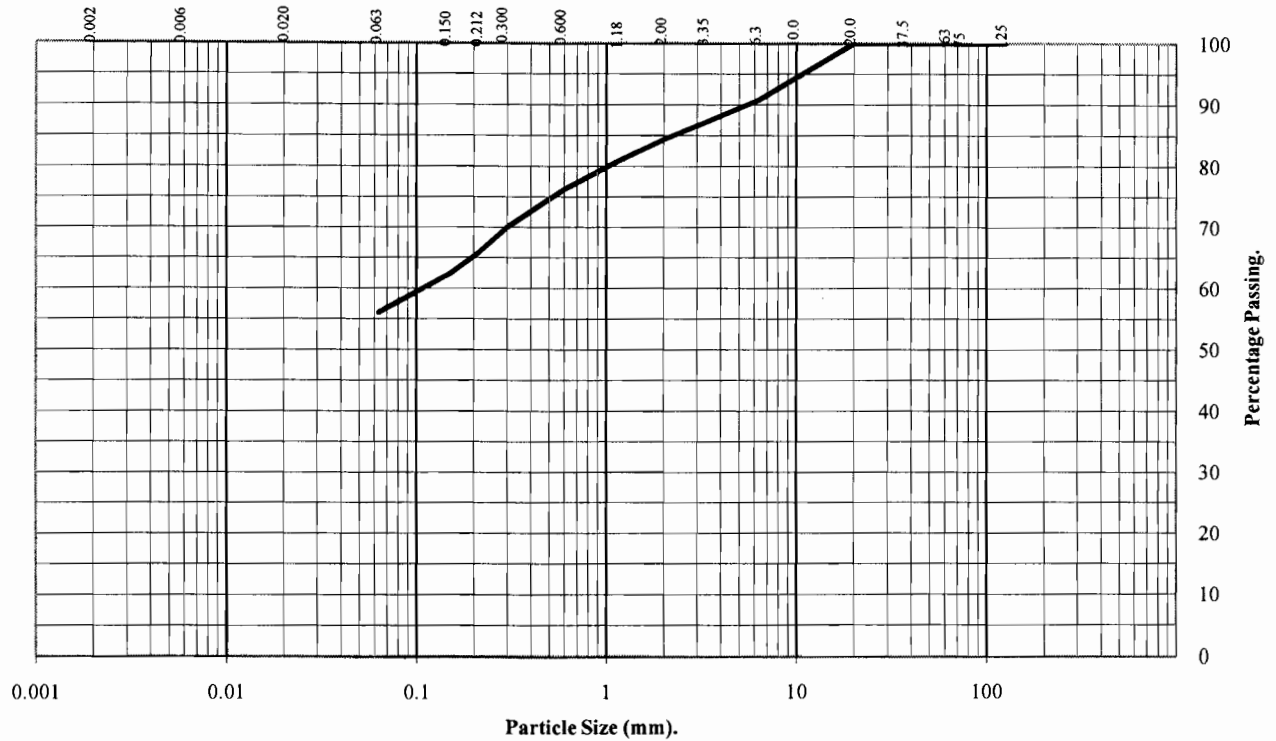


PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH17/12** Type: **B** Depth (m): **4.50** to **5.00**





BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	95
6.3	91
3.35	87
2.00	84
1.18	81
0.60	76
0.30	70
0.21	66
0.15	62
0.06	56

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	16
Sand	28
Silt and Clay	56

Remarks:

#- not determined

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PARTICLE SIZE DISTRIBUTION TEST

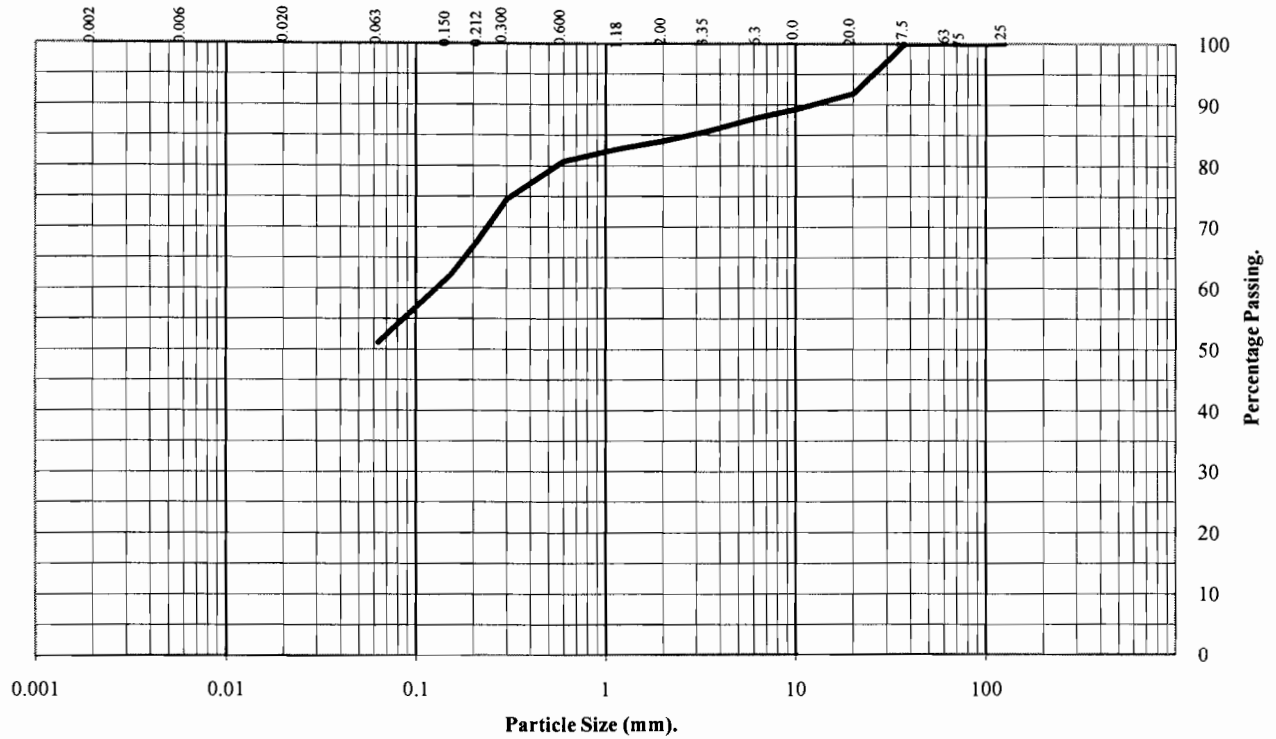
BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH19/11**

Type: **B**

Depth (m): **4.50 to 5.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	92
10	89
6.3	88
3.35	86
2.00	84
1.18	83
0.60	81
0.30	75
0.21	68
0.15	62
0.06	51

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	16
Sand	33
Silt and Clay	51

Remarks:

#- not determined

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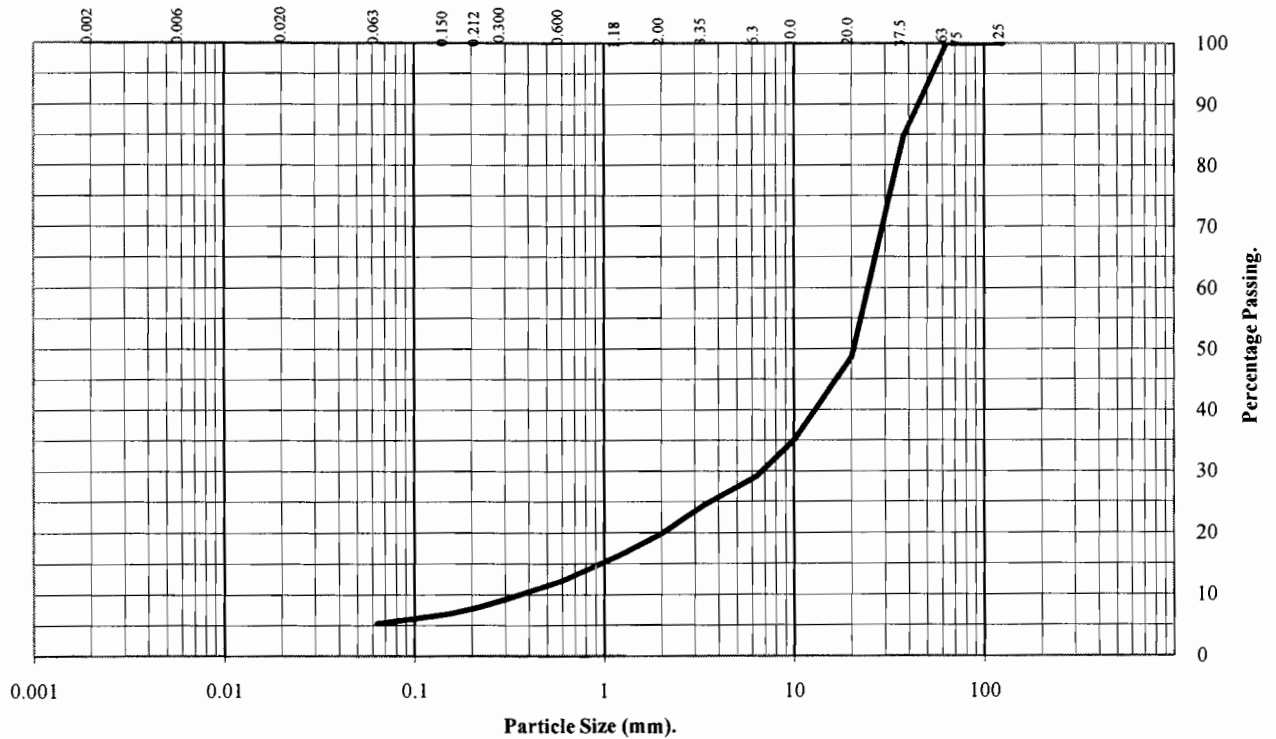


PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole Number: **TP1** Type: **B** Depth (m): **0.50 to 1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	85
20	49
10	35
6.3	29
3.35	24
2.00	20
1.18	16
0.60	12
0.30	9
0.21	8
0.15	7
0.06	5

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	80
Sand	15
Silt and Clay	5

Remarks:

#- not determined

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ONE DIMENSIONAL CONSOLIDATION

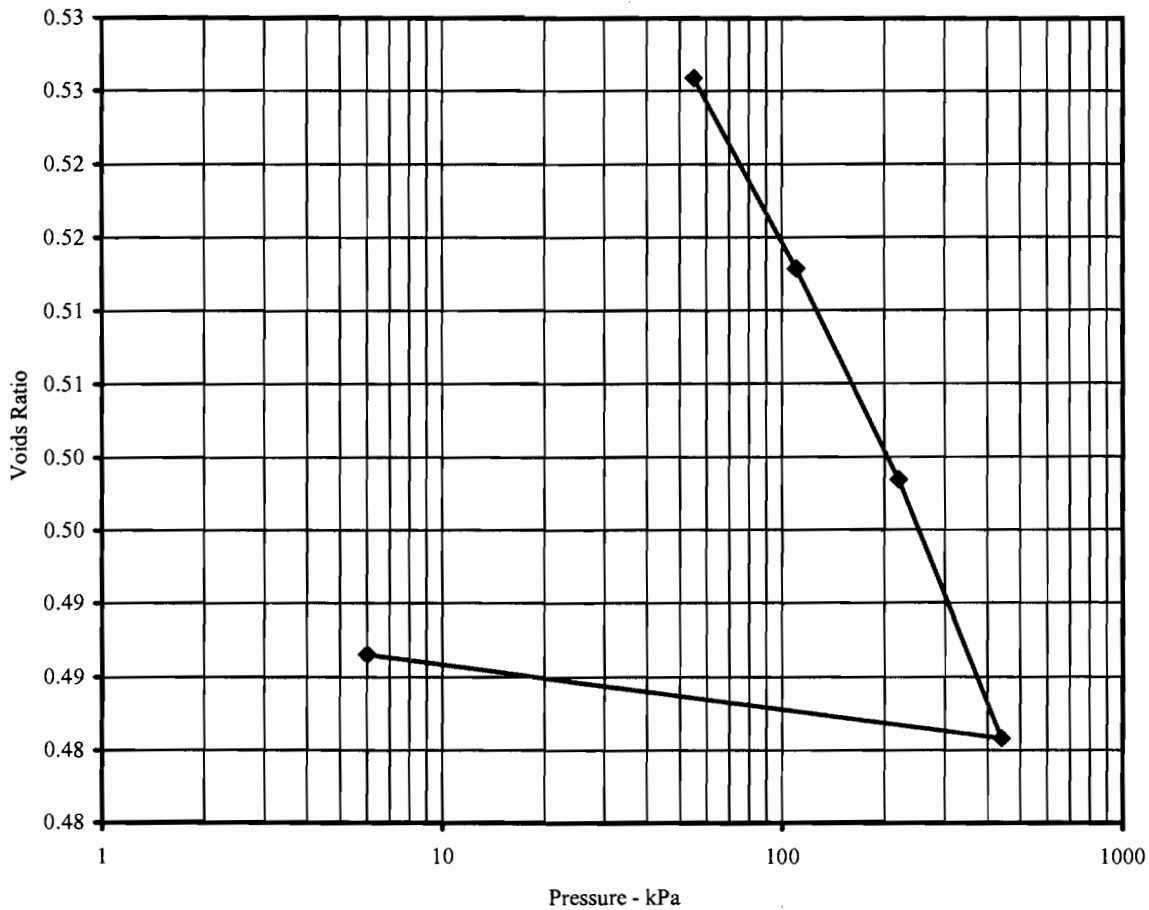
BS1377: Part 5: 1990

Hole Number: **BH7**

Sample Number: **16**

Depth (m): **5.00-5.75**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	11	kPa	m ² /MN	m ² /yr	Cv Calculated using t90
Bulk Density (Mg/m ³):	1.91	0 - 55	0.273	0.939	Nominal Laboratory Temperature 20°C
Dry Density (Mg/m ³):	1.71	55 - 110	0.155	1.124	
Voids Ratio:	0.5492	110 - 220	0.087	1.186	Location of specimen with sample Top
Degree of saturation:	55.3	220 - 440	0.053	2.346	
Height (mm):	19.96	440 - 6	0.009	1.095	Remarks:
Diameter (mm)	75				
Particle Density (Mg/m ³):	2.65				
Assumed					



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ONE DIMENSIONAL CONSOLIDATION

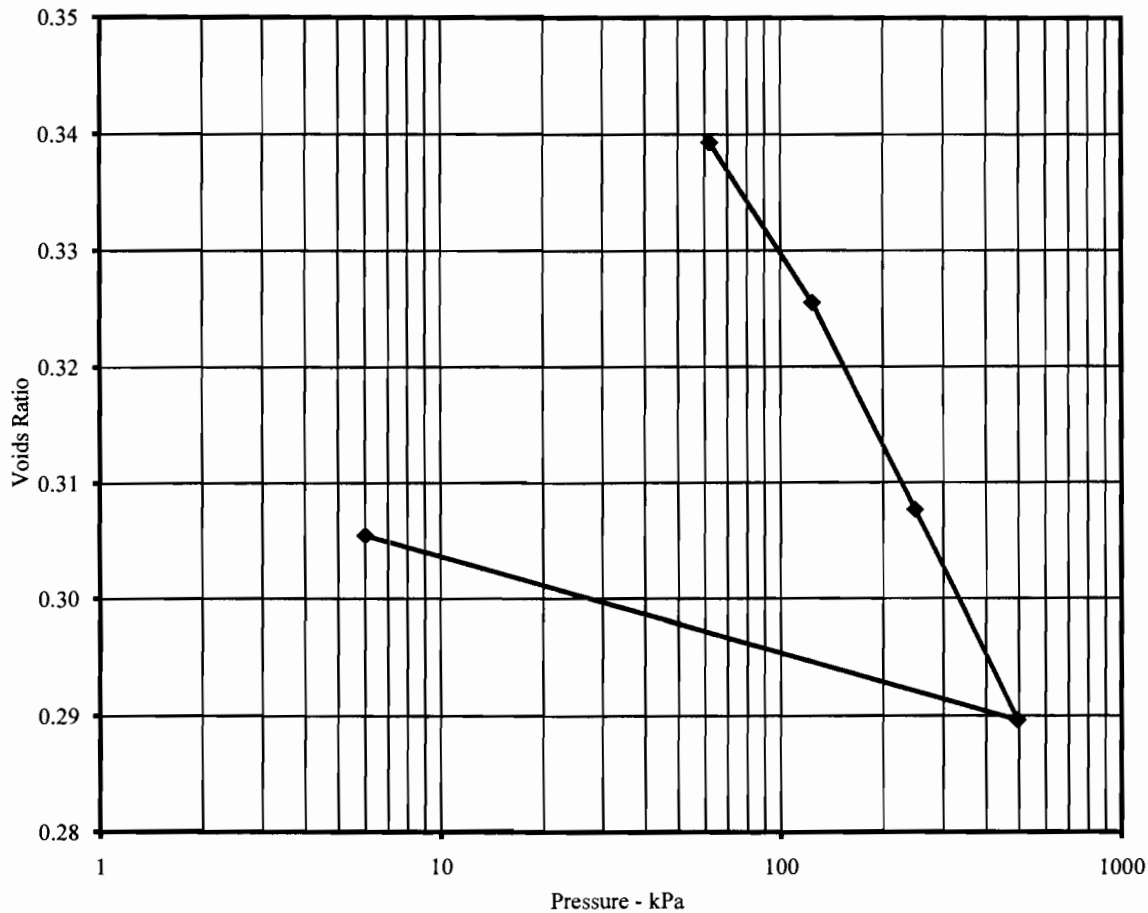
BS1377: Part 5: 1990

Hole Number: **BH9**

Sample Number: **18**

Depth (m): **6.00-6.45**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	13	kPa	m ² /MN	m ² /yr	Cv Calculated using t ₉₀
Bulk Density (Mg/m ³):	2.19	0 - 62	0.267	0.818	Nominal Laboratory Temperature 20°C
Dry Density (Mg/m ³):	1.95	62 - 124	0.166	0.976	
Voids Ratio:	0.3619	124 - 248	0.108	1.025	Location of specimen with sample Top
Degree of saturation:	91.7	248 - 496	0.056	2.014	
Height (mm):	18.65	496 - 6	0.025	0.946	Remarks:
Diameter (mm):	75.12				
Particle Density (Mg/m ³):	2.65				
Assumed					



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ONE DIMENSIONAL CONSOLIDATION

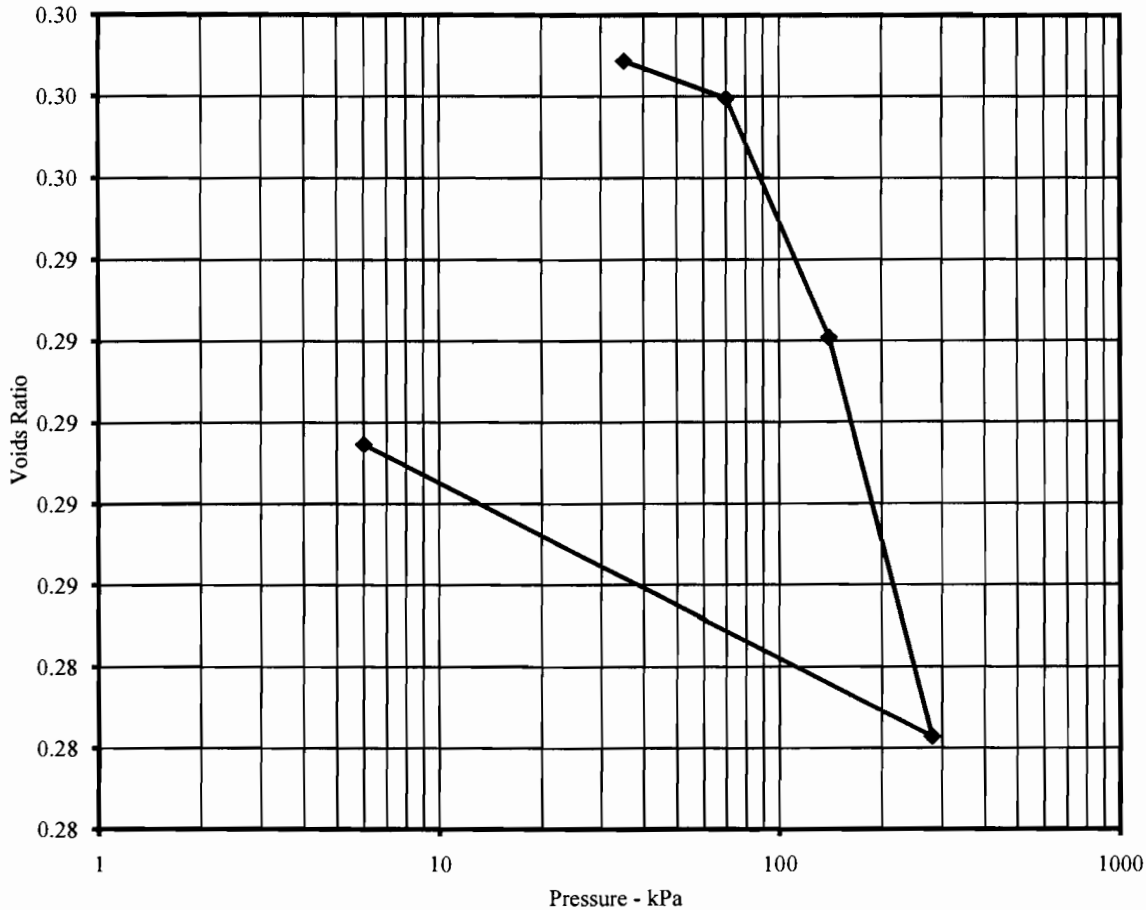
BS1377: Part 5: 1990

Hole Number: **BH17**

Sample Number: **9**

Depth (m): **3.00-3.45**

Initial Conditions		Pressure Range	Mv	Cv	Method of time fitting used
Moisture Content (%):	10	kPa	m ² /MN	m ² /yr	Cv Calculated using t90
Bulk Density (Mg/m ³):	2.25	0 - 35	0.040	9.418	Nominal Laboratory Temperature 20°C
Dry Density (Mg/m ³):	2.04	35 - 70	0.020	3.249	
Voids Ratio:	0.3007	70 - 140	0.065	1.709	Location of specimen with sample Top
Degree of saturation:	91.6	140 - 280	0.054	2.475	
Height (mm):	19.92	280 - 6	0.020	1.703	Remarks:
Diameter (mm)	75.03				
Particle Density (Mg/m ³):	2.65				
Assumed					



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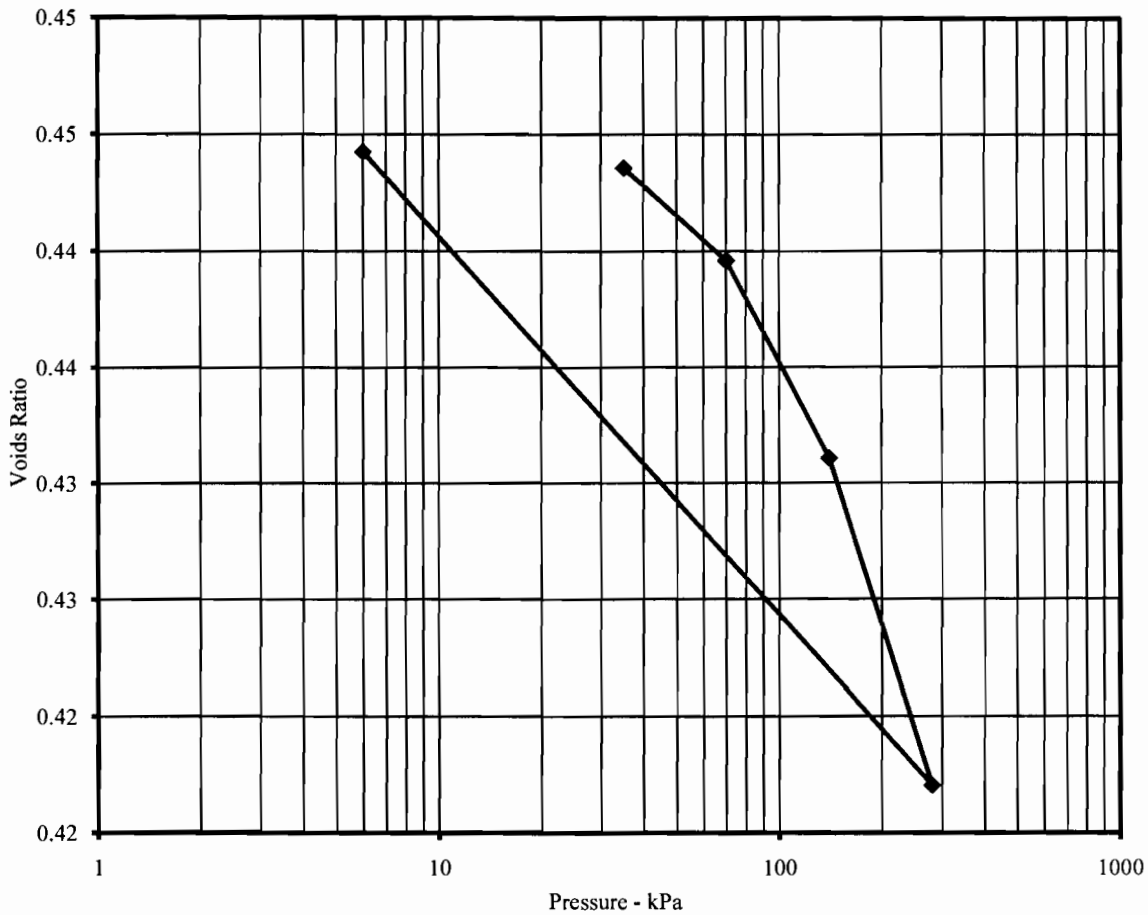
BS1377: Part 5: 1990

Hole Number: **BH20**

Sample Number: **7**

Depth (m): **3.20-3.65**

Initial Conditions		Pressure Range		Mv	Cv	Method of time fitting used	
Moisture Content (%):	13	kPa		m ² /MN	m ² /yr	Cv Calculated using t90	
Bulk Density (Mg/m ³):	2.06	0	- 35	Swelling	Stage	Nominal Laboratory Temperature 20°C	
Dry Density (Mg/m ³):	1.82	35	- 70	0.078	2.540		
Voids Ratio:	0.4534	70	- 140	0.085	3.295	Location of specimen with sample Top	
Degree of saturation:	77.1	140	- 280	0.070	1.518		
Height (mm):	19.08	280	-	6	0.070	1.566	Remarks:
Diameter (mm):	75.16						
Particle Density (Mg/m ³):	2.65						
Assumed							



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Undrained Shear Strength in Triaxial Compression

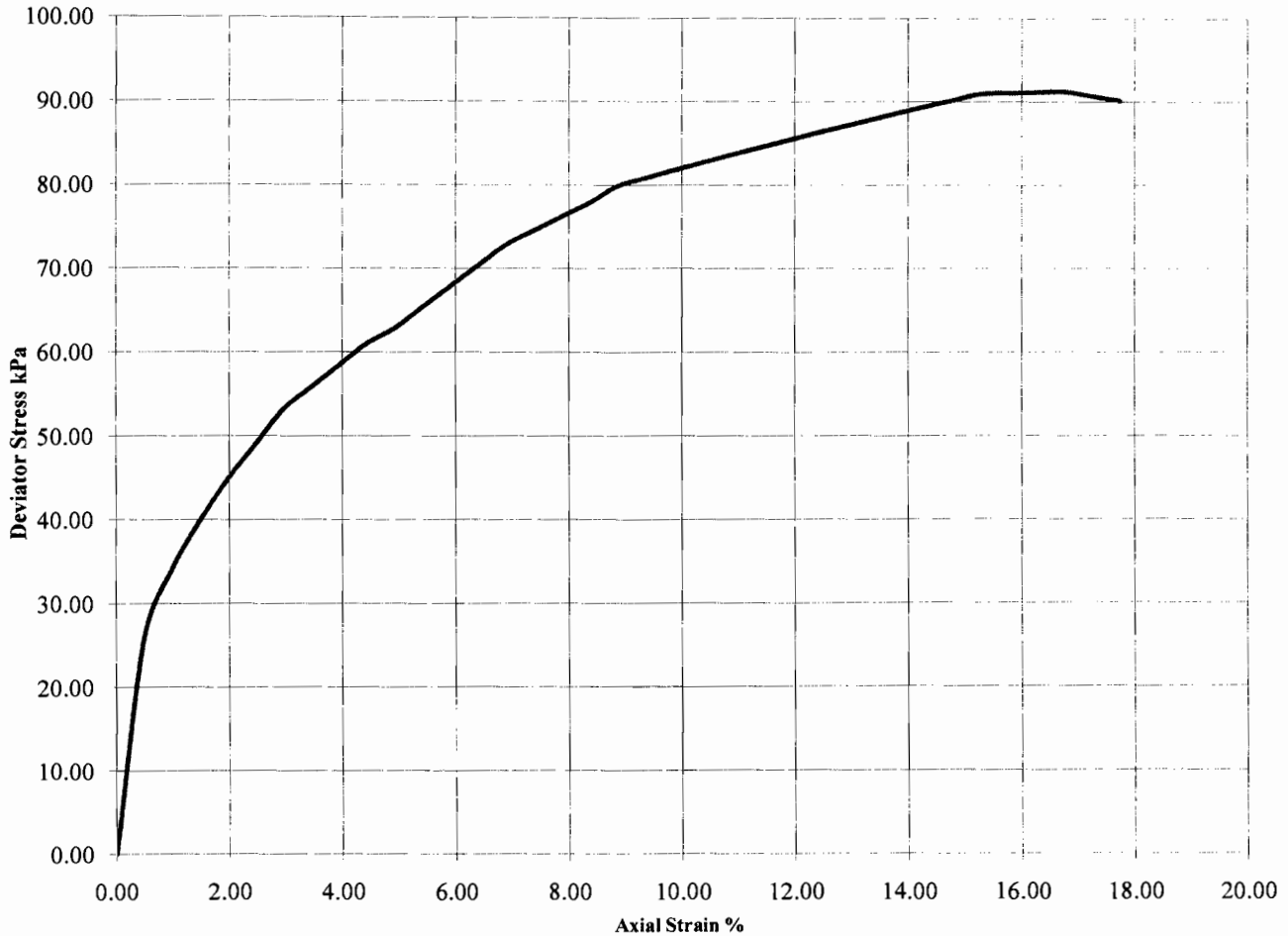
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH2 Sample Number: **8**

Depth (m): **2.00-2.45**



Diameter (mm):		104		Height (mm):		203		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	22	1.91	1.57	25	63	31	4.9	Plastic			
				50	78	39	8.4				
				100	91	46	16.7				

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Undrained Shear Strength in Triaxial Compression

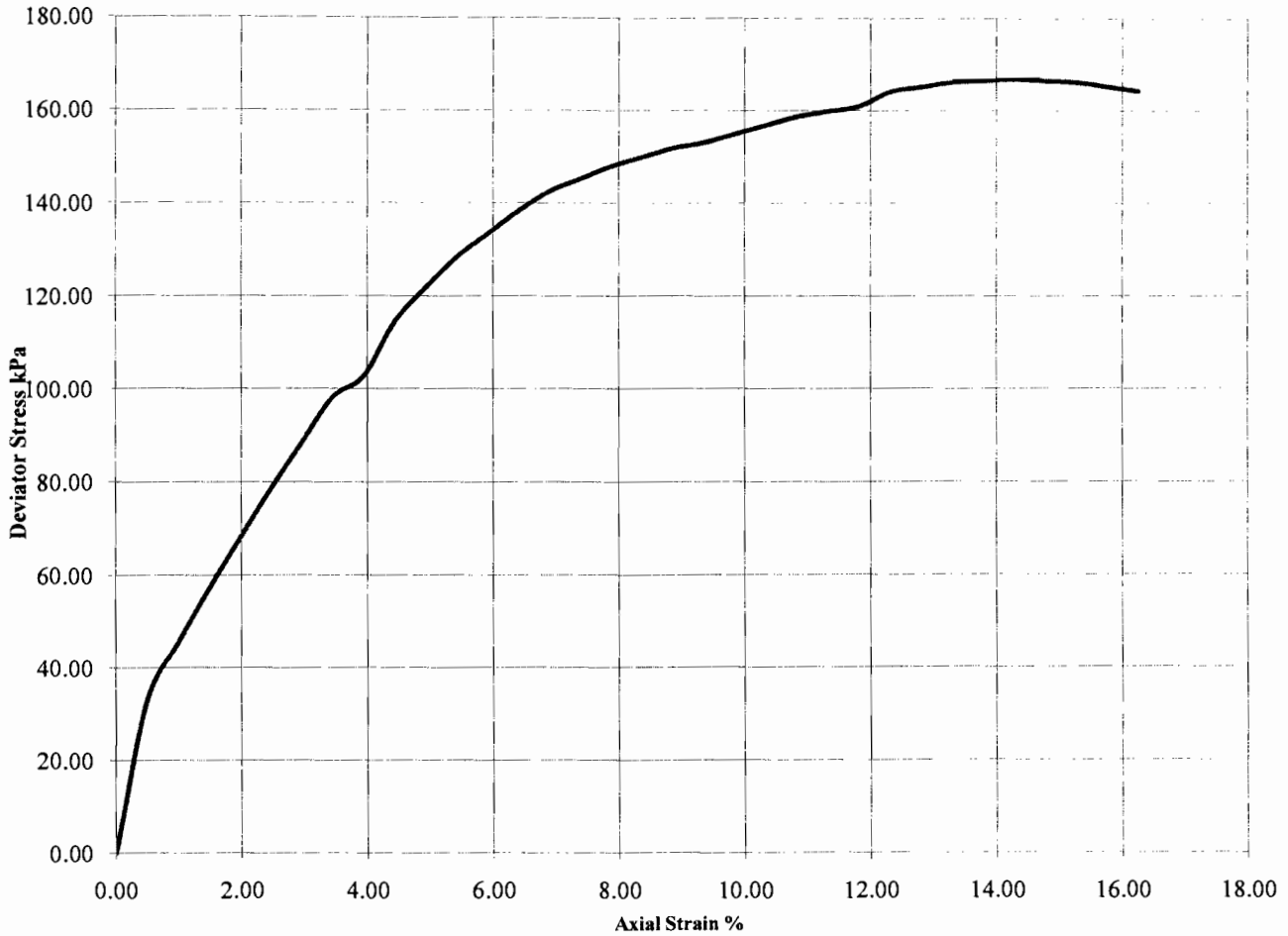
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH3 Sample Number: **8**

Depth (m): **2.90-3.35**



Diameter (mm):		104	Height (mm):		203	Test:				100mm Multistage
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks	
A	16	2.01	1.73	31	153	77	9.4	Brittle		
				62	161	81	11.8			
				124	167	83	14.3			

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Undrained Shear Strength in Triaxial Compression

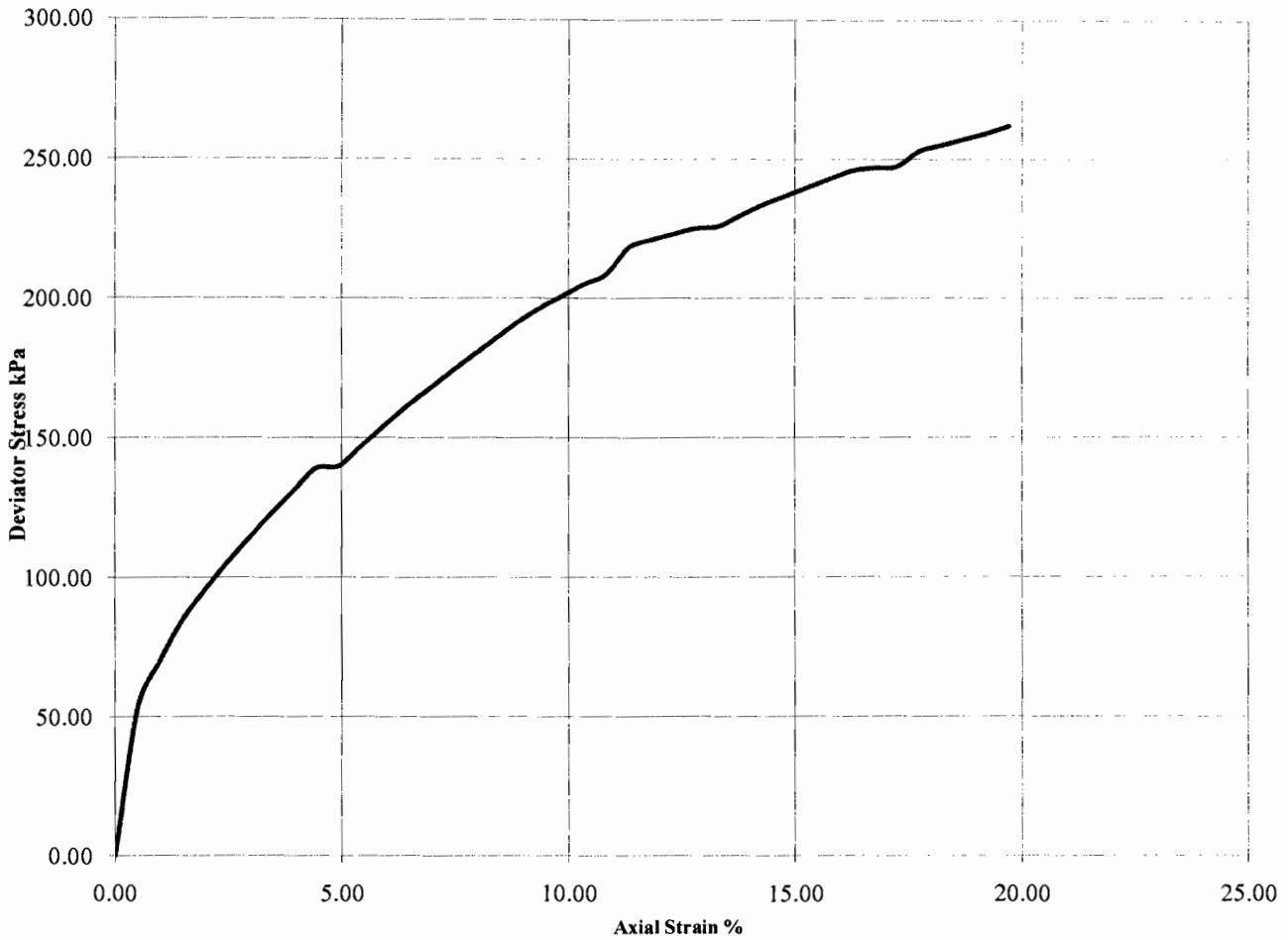
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH7b Sample Number: **16**

Depth (m): **5.00-5.75**



Diameter (mm):		104		Height (mm):		203		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	11	1.91	1.73	55	226	113	13.3	Compound			
				110	247	124	17.2				
				220	262	131	19.7				

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Date



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Client Ref No.
LE10104/VE059

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Undrained Shear Strength in Triaxial Compression

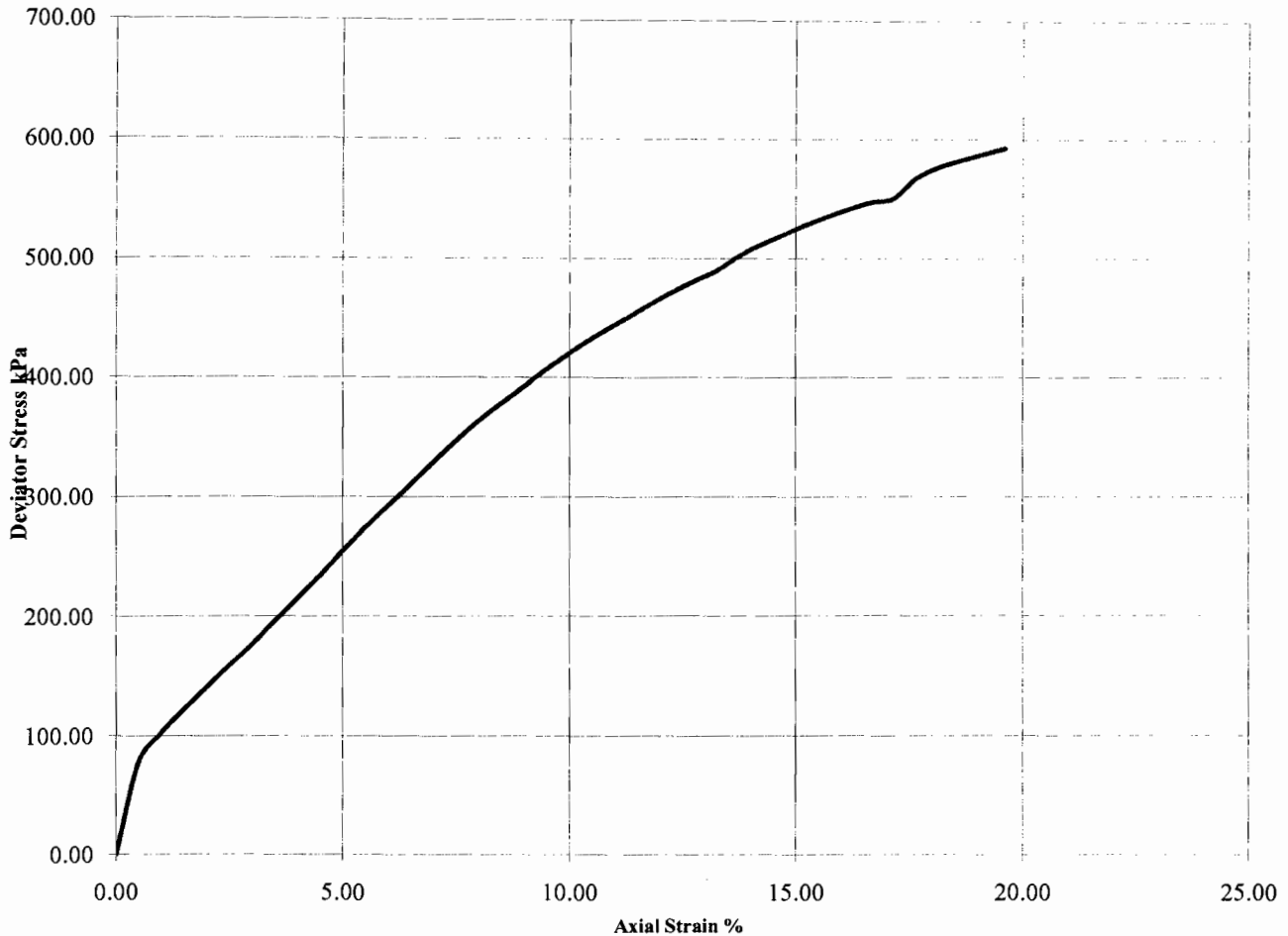
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH7b Sample Number: **23**

Depth (m): **9.00-9.45**



Diameter (mm):		103		Height (mm):		204		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	11	2.14	1.93	90	490	245	13.2	Compound			
				180	551	275	17.2				
				360	593	297	19.6				

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Undrained Shear Strength in Triaxial Compression

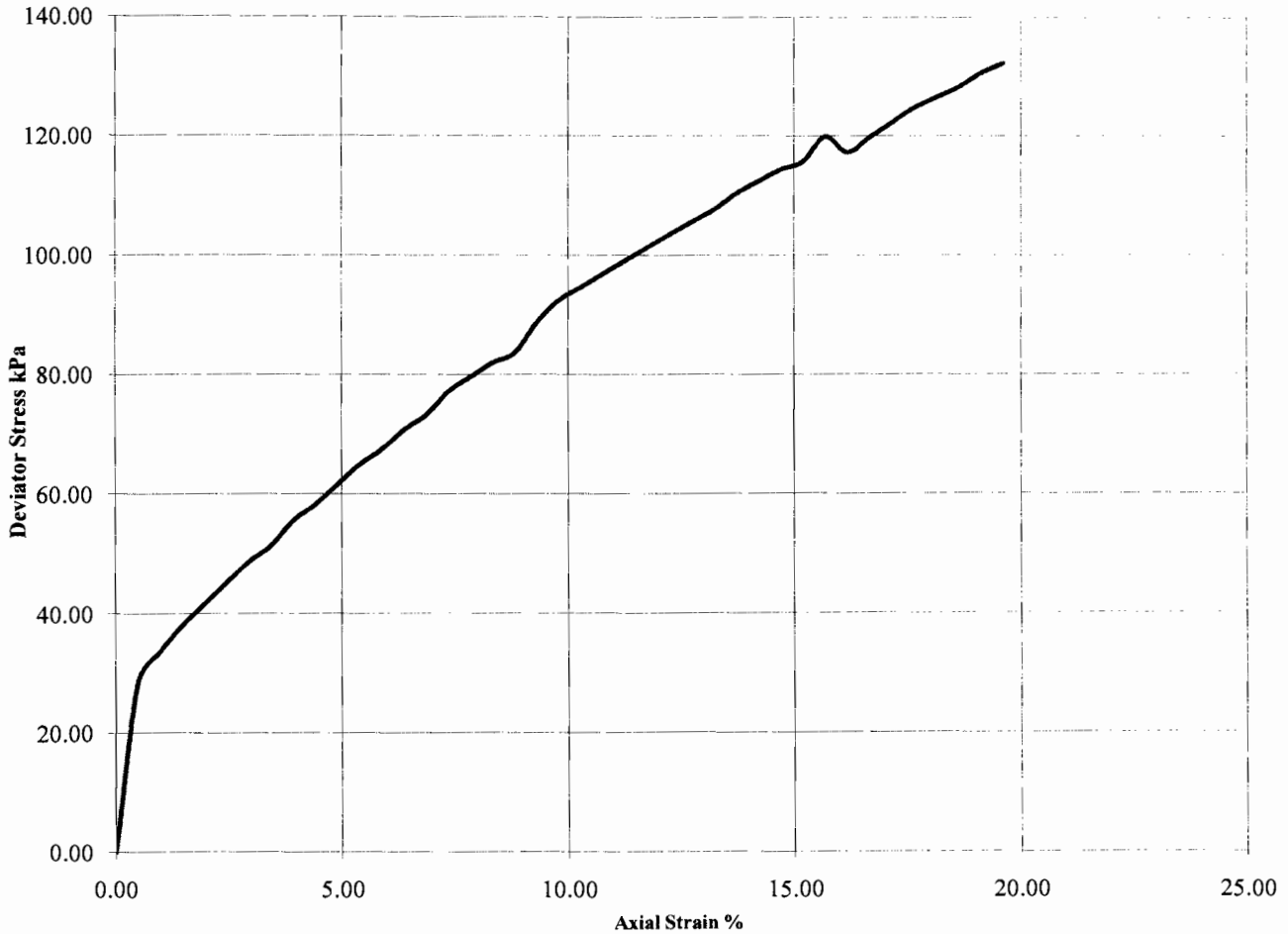
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH9 Sample Number: **18**

Depth (m): **6.00-6.45**



Diameter (mm):		103			Height (mm):		204		Test:		100mm Multistage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure					
A	12	2.08	1.86	62	84	42	8.8	Compound					
				124	116	58	15.2						
				248	132	66	19.6						

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Undrained Shear Strength in Triaxial Compression

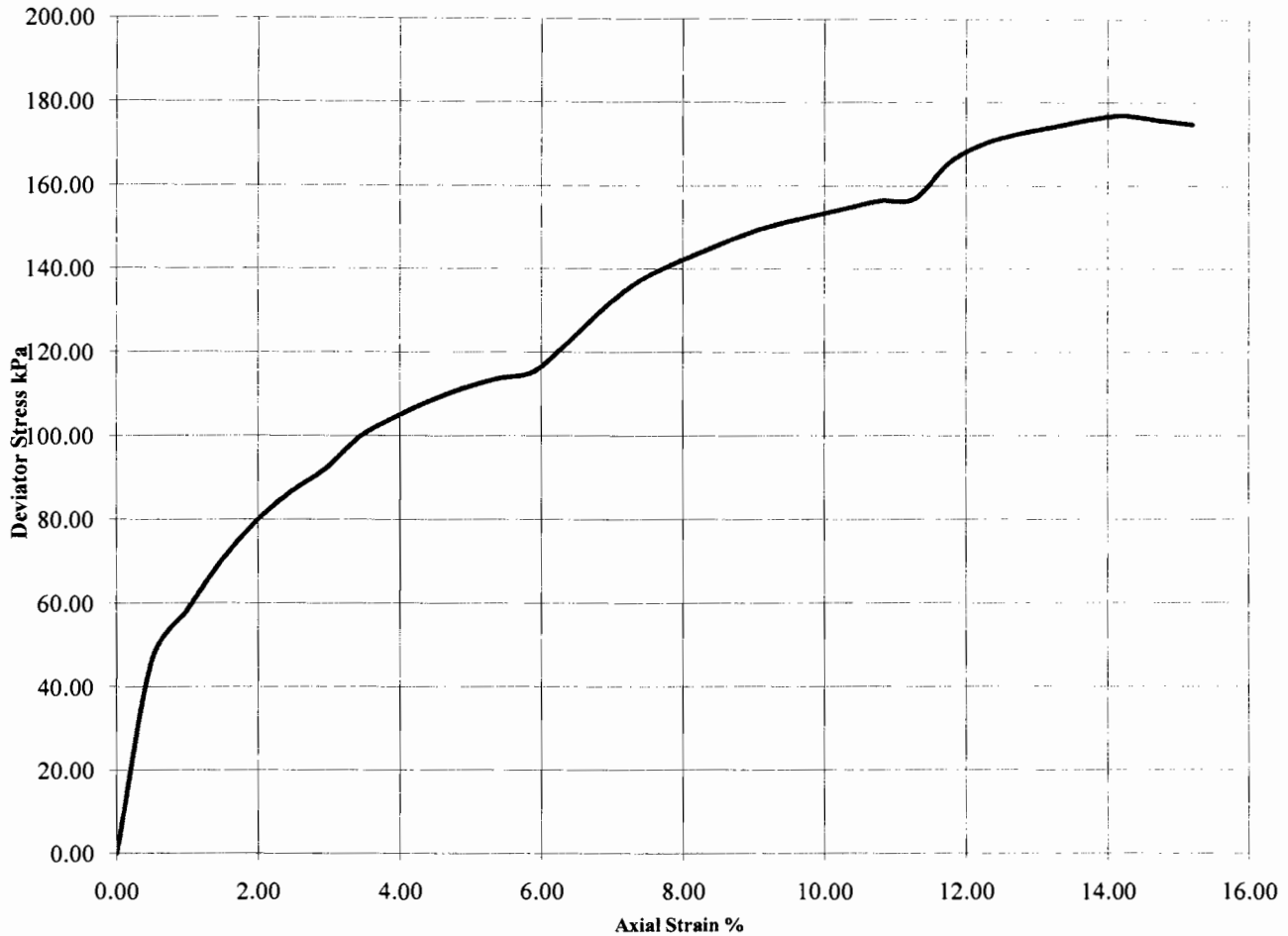
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH9 Sample Number: **34**

Depth (m): **15.00-15.45**



Diameter (mm):		103		Height (mm):		204		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	12	1.97	1.77	150	115	58	5.9	Compound			
				300	157	78	11.3				
				600	177	88	14.2				

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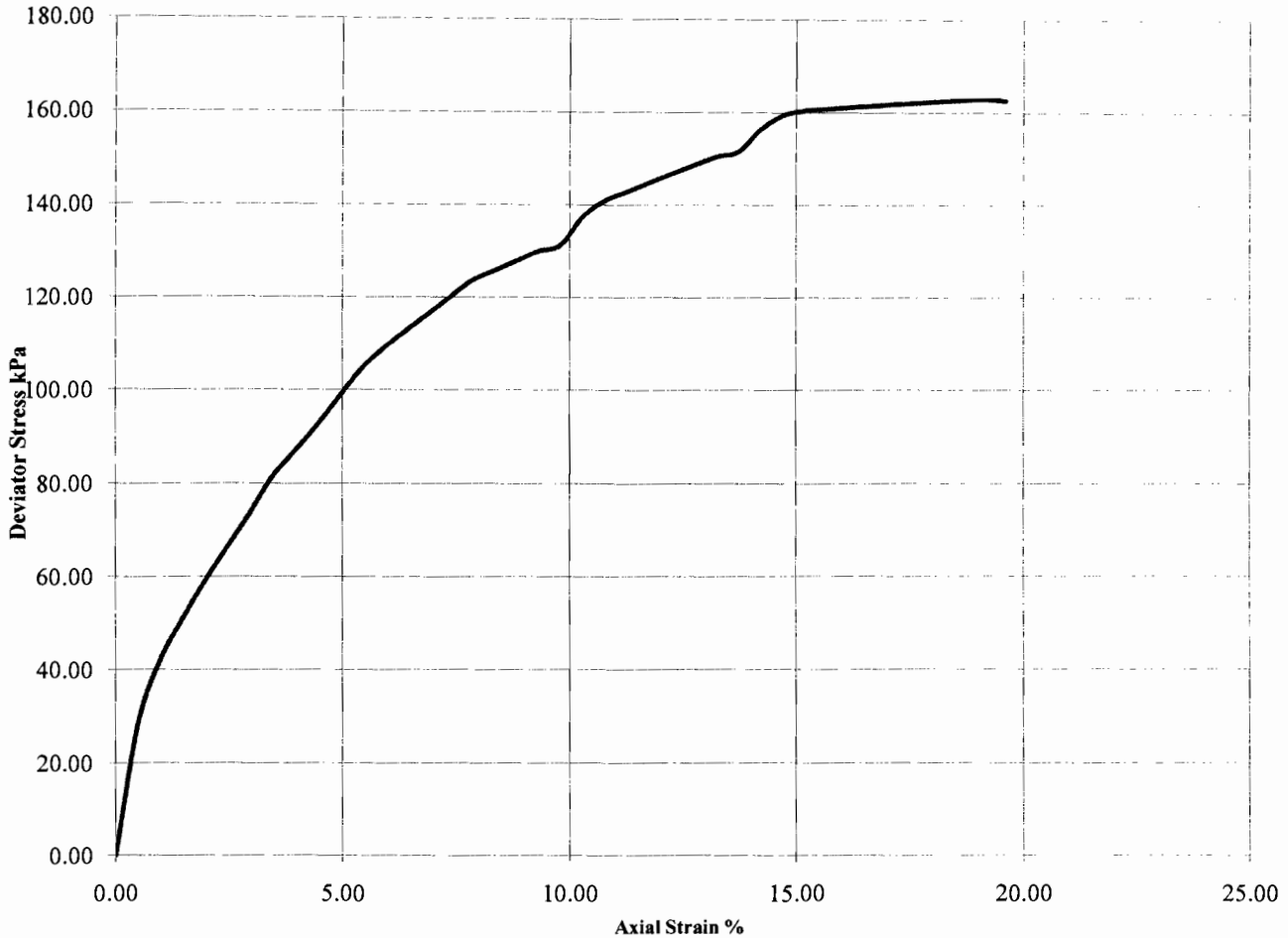


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH11a/WS6** Sample Number: **18** Depth (m): **3.10-3.55**



Diameter (mm):		Height (mm):			Test:		100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	16	2.04	1.75	35	131	66	9.8	Compound	
				70	152	76	13.7		
				140	163	82	19.1		

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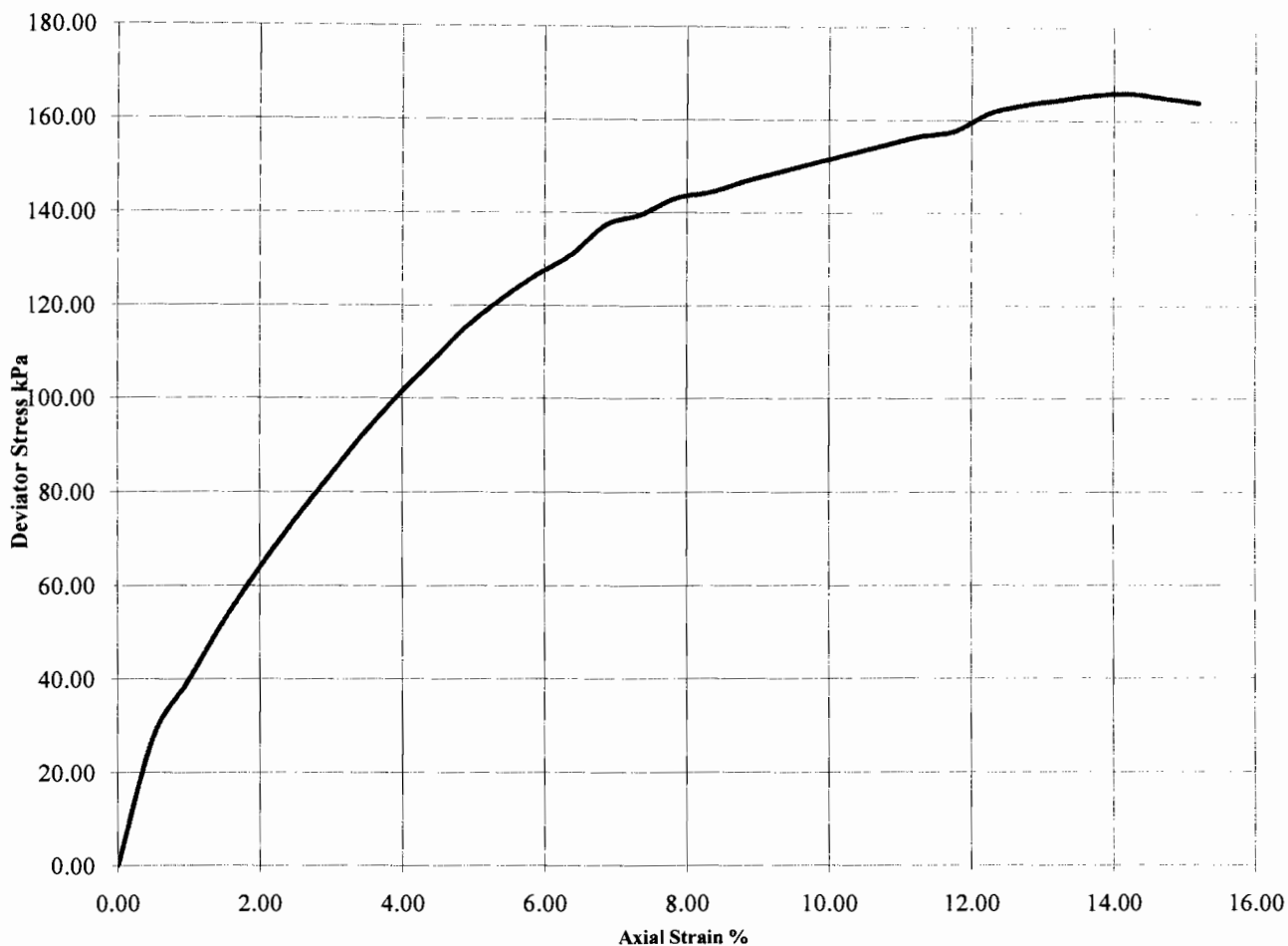


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH12** Sample Number: **10** Depth (m): **3.10-3.55**



Diameter (mm):		103		Height (mm):		204		Test:		100mm Multistage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure				
A	10	1.97	1.79	35	145	72	8.3	Brittle				
				70	158	79	11.8					
				140	166	83	14.2					

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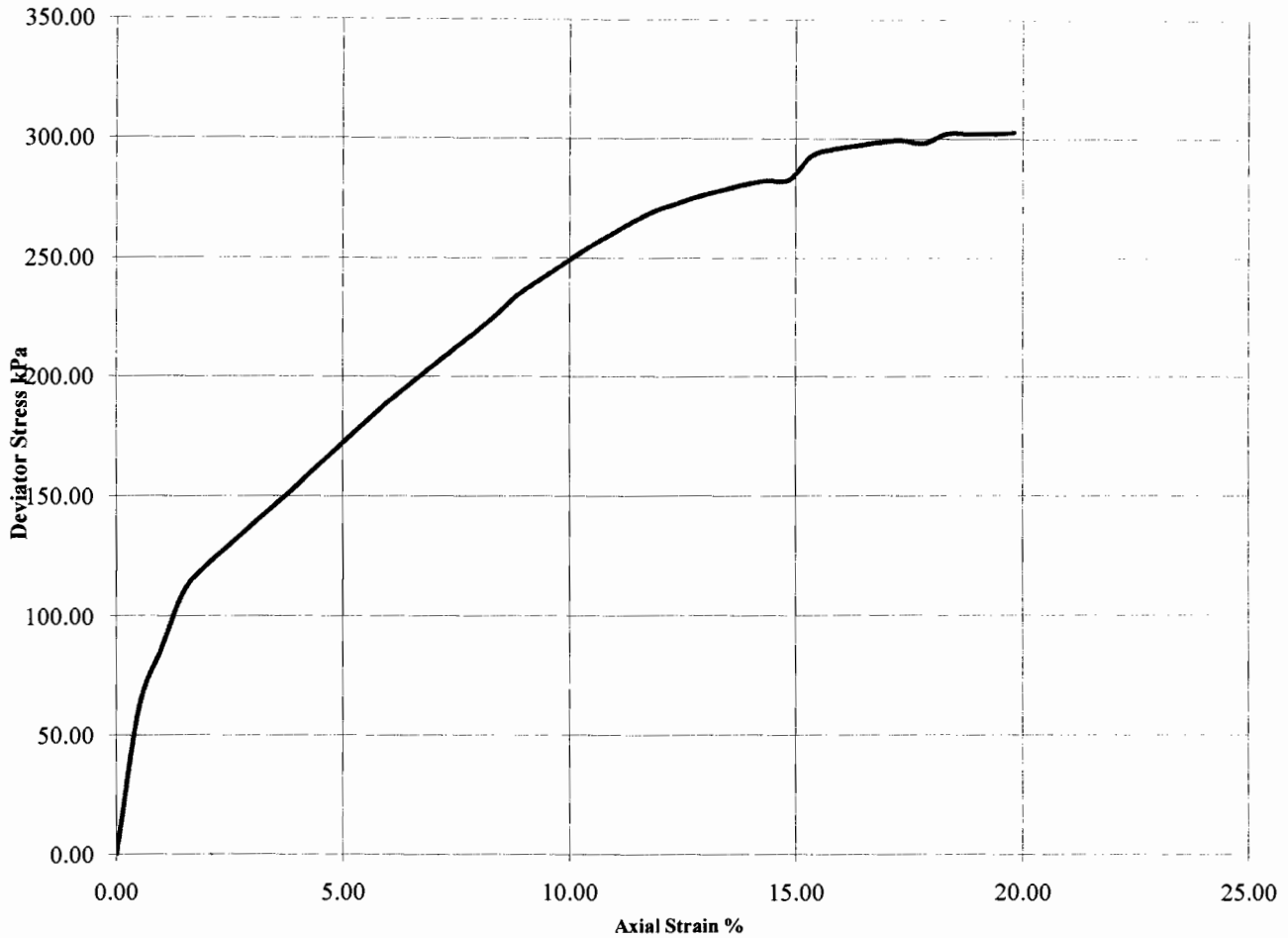


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH12** Sample Number: **15** Depth (m): **5.10-5.55**



Diameter (mm):		103		Height (mm):		202		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	12	2.14	1.90	50	283	141	14.9	Compound			
				100	300	150	17.3				
				200	303	151	19.8				

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Client Ref No.
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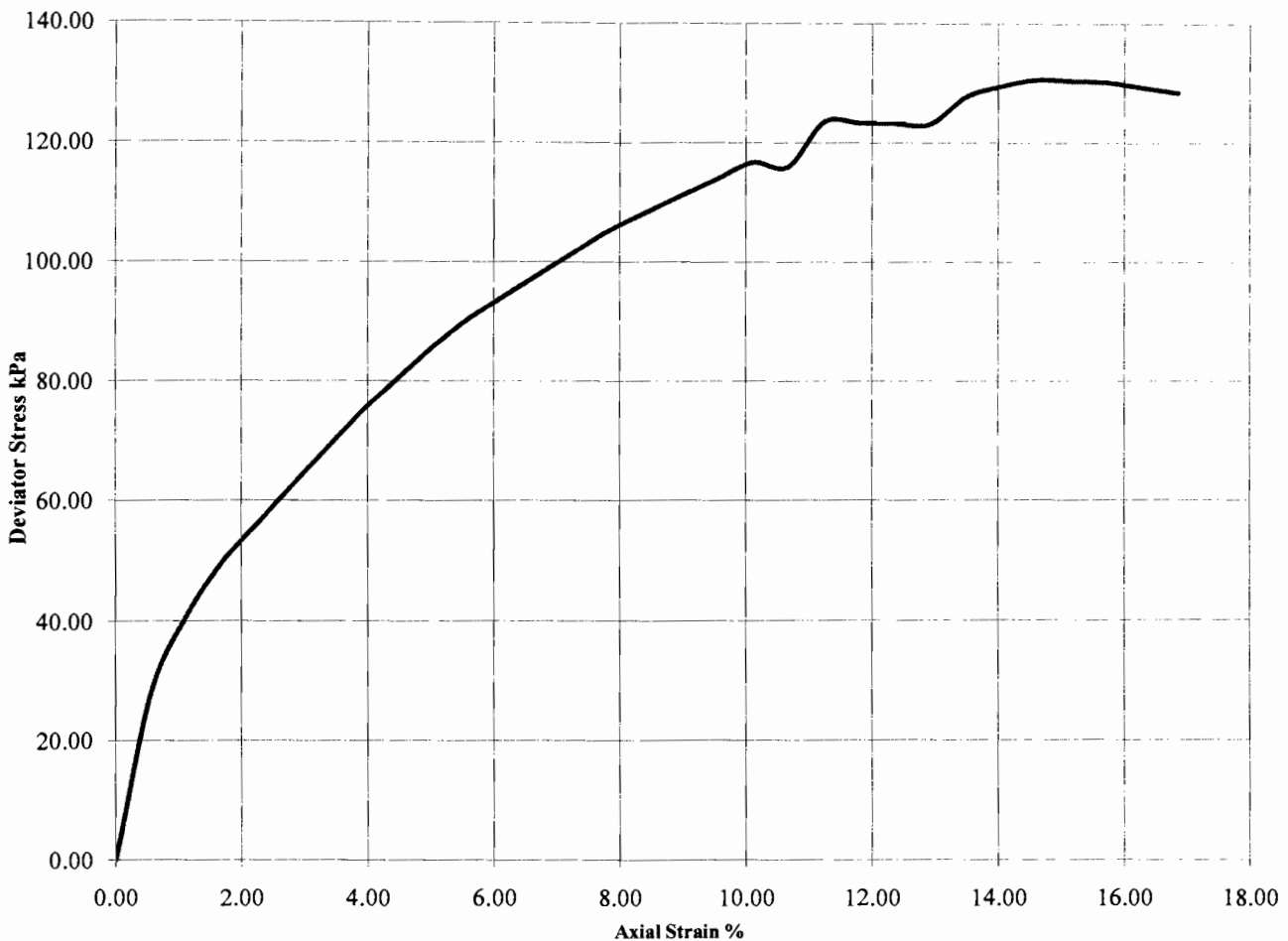


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH13** Sample Number: **9** Depth (m): **2.60-3.02**



Diameter (mm):		Height (mm):			Test:		100mm Multistage			Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure		
A	13	2.05	1.82	30	117	58	10.1	Compound		
				60	124	62	11.2			
				120	131	65	14.6			

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Undrained Shear Strength in Triaxial Compression

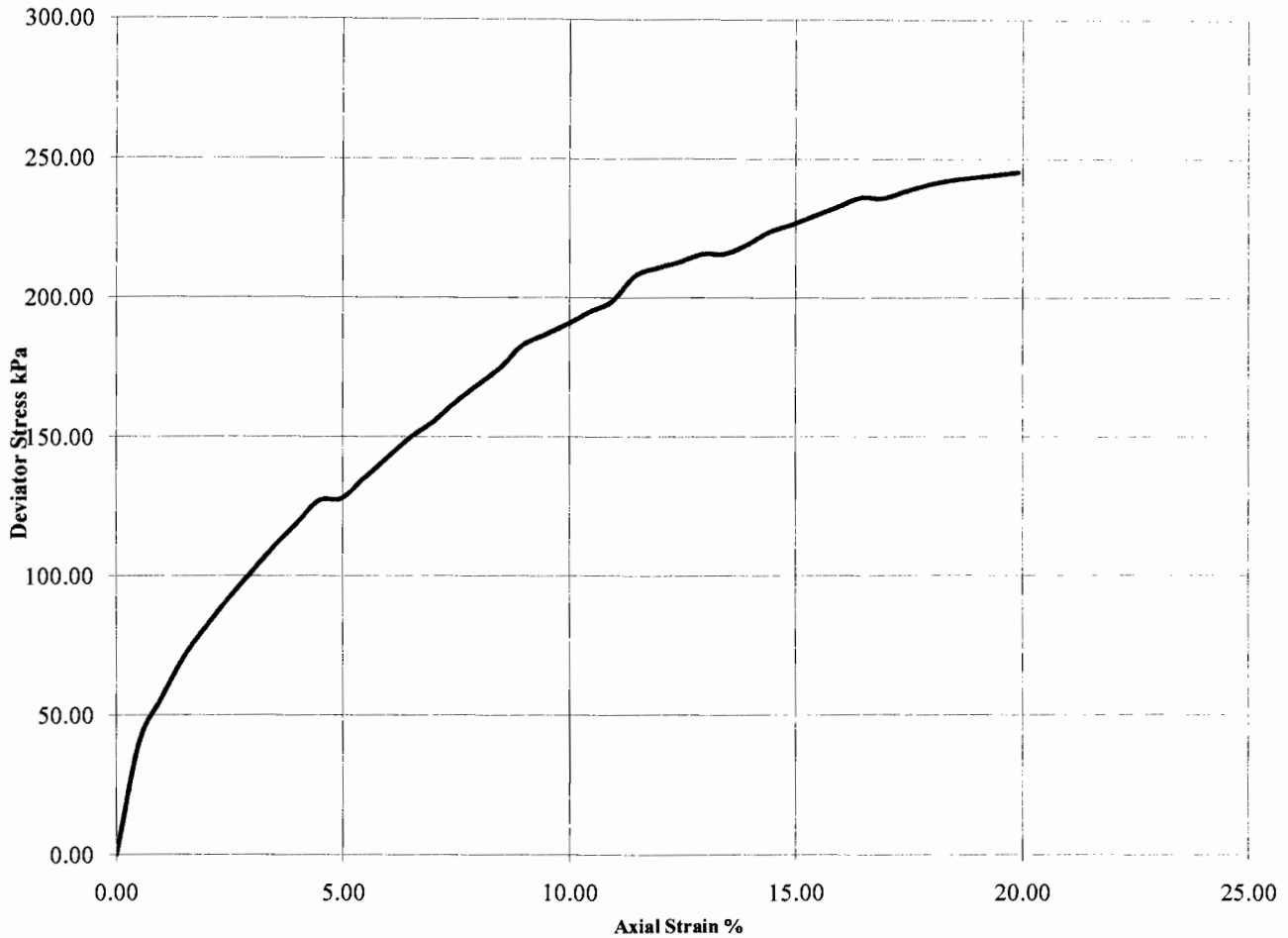
without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number:

BH13 Sample Number: **16**

Depth (m): **5.00-5.45**



Diameter (mm):		103		Height (mm):		201		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	16	2.03	1.76	50	216	108	13.4	compound			
				100	236	118	16.4				
				200	245	123	19.9				

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LE10104/VE059
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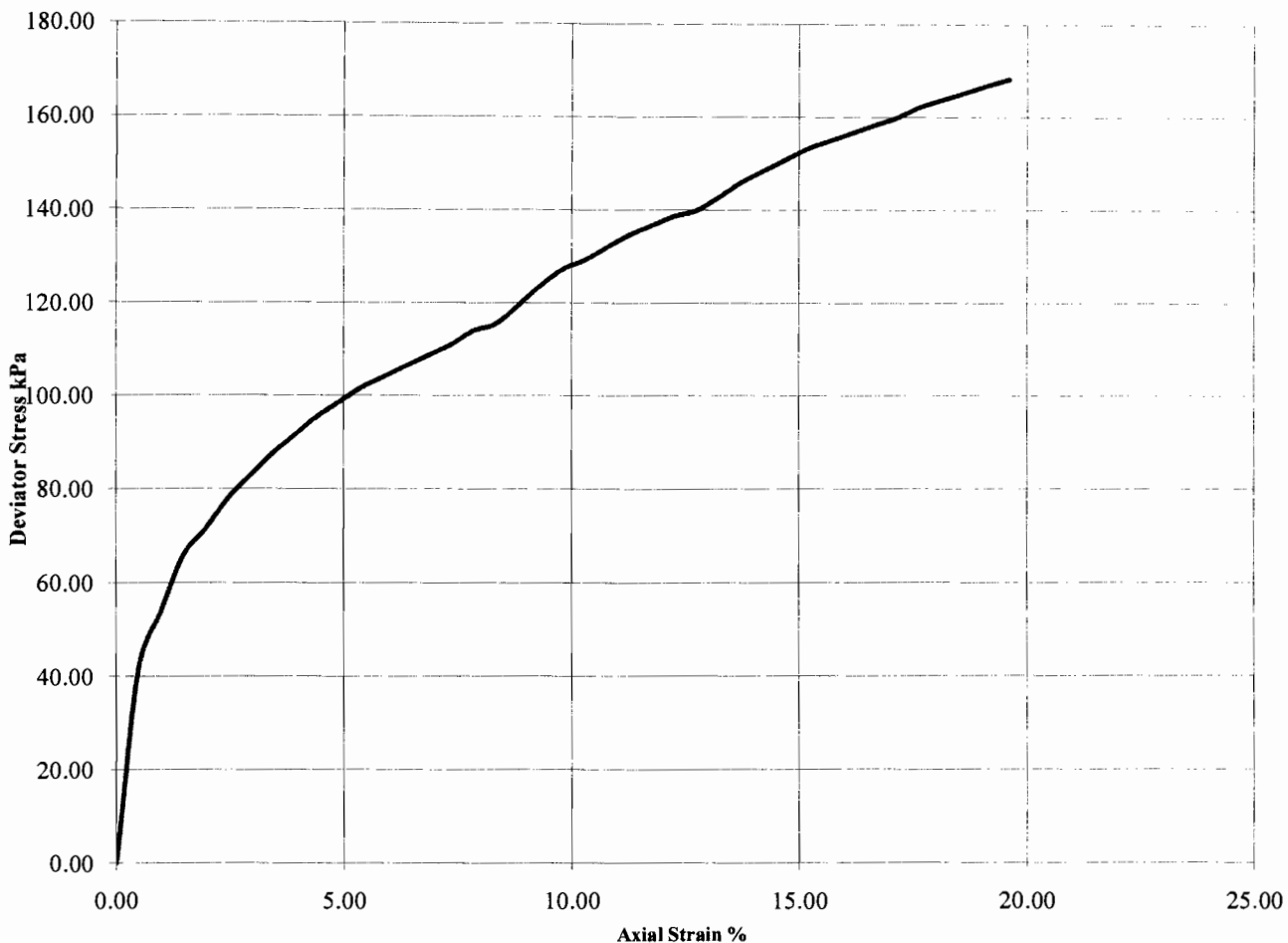


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH15** Sample Number: **14** Depth (m): **5.00-5.45**



Diameter (mm):		103			Height (mm):		204		Test:		100mm Multistage		Remarks
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure					
A	12	1.79	1.60	50	116	58	8.3	Compound					
				100	140	70	12.7						
				200	168	84	19.6						

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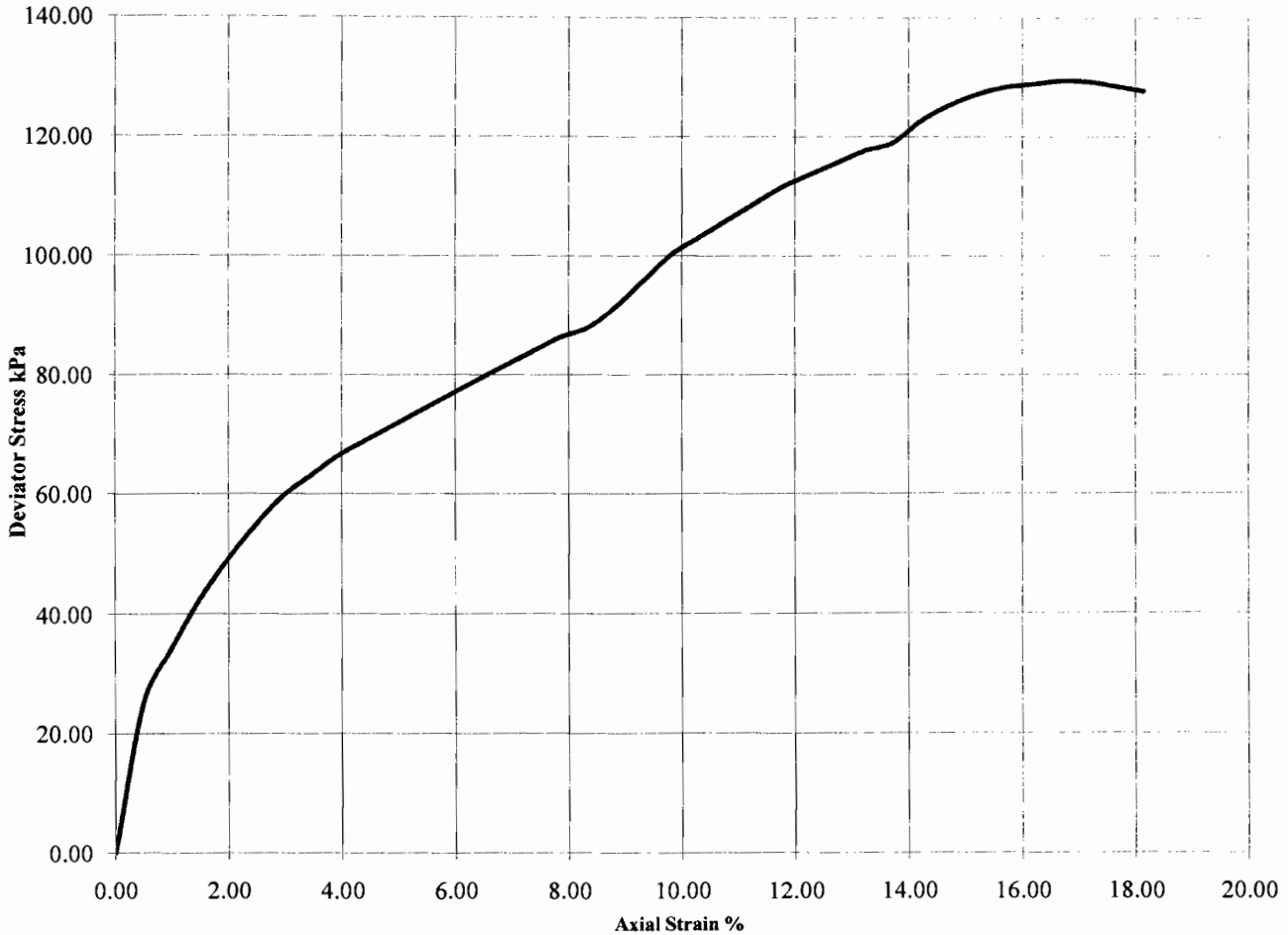


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH17** Sample Number: **9** Depth (m): **3.00-3.45**



Diameter (mm):		Height (mm):			Test:		100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	7.5	1.79	1.66	35	88	44	8.3	Compound	
				70	119	60	13.7		
				140	129	65	16.7		

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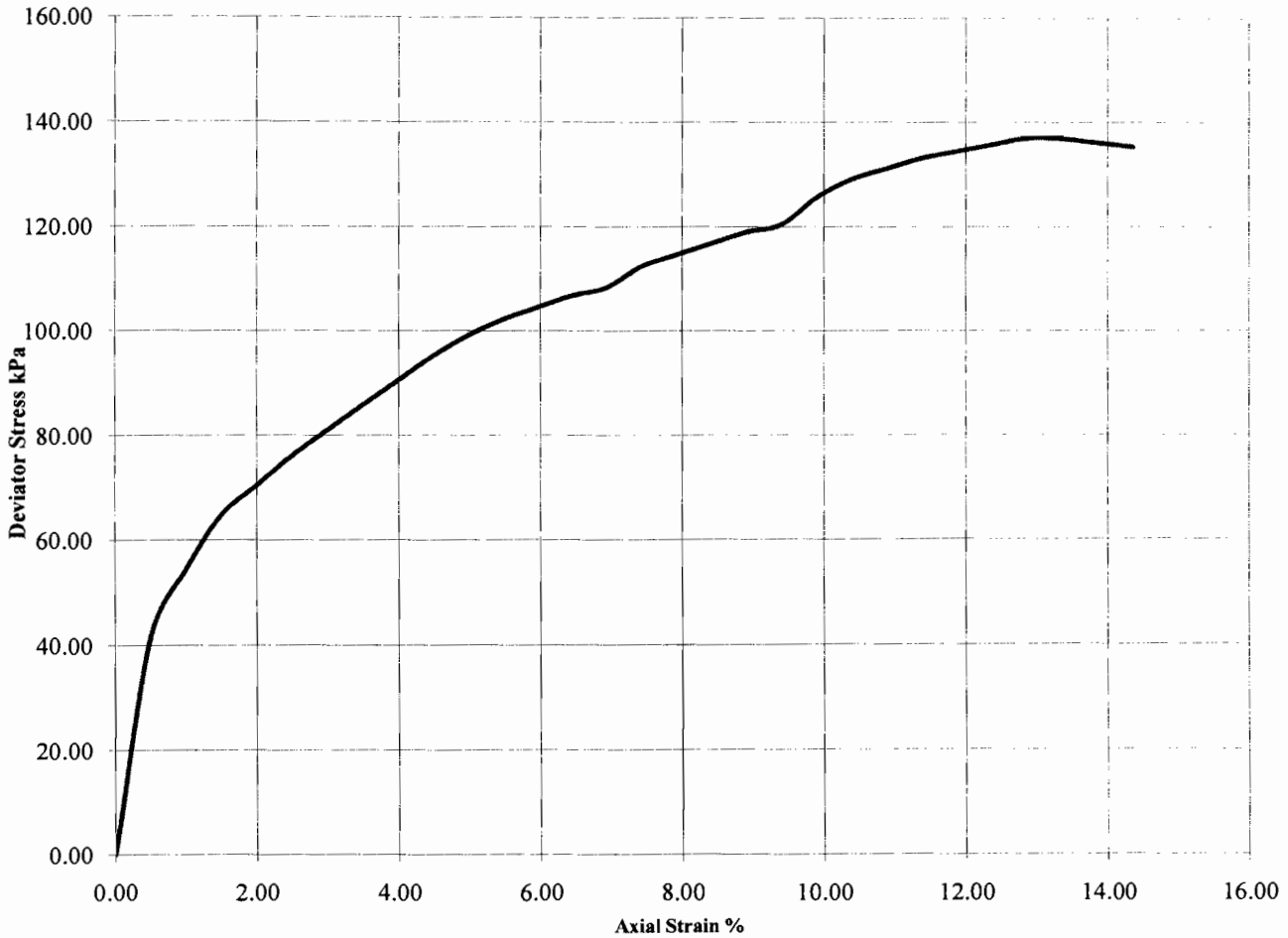


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH18a** Sample Number: **8** Depth (m): **2.80-3.25**



Diameter (mm):		103			Height (mm):		202			Test:		100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks					
A	9.1	1.90	1.74	30	108	54	6.9	Plastic						
				60	120	60	9.4							
				120	137	69	12.9							

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Client Ref No.
LE10104/VE059
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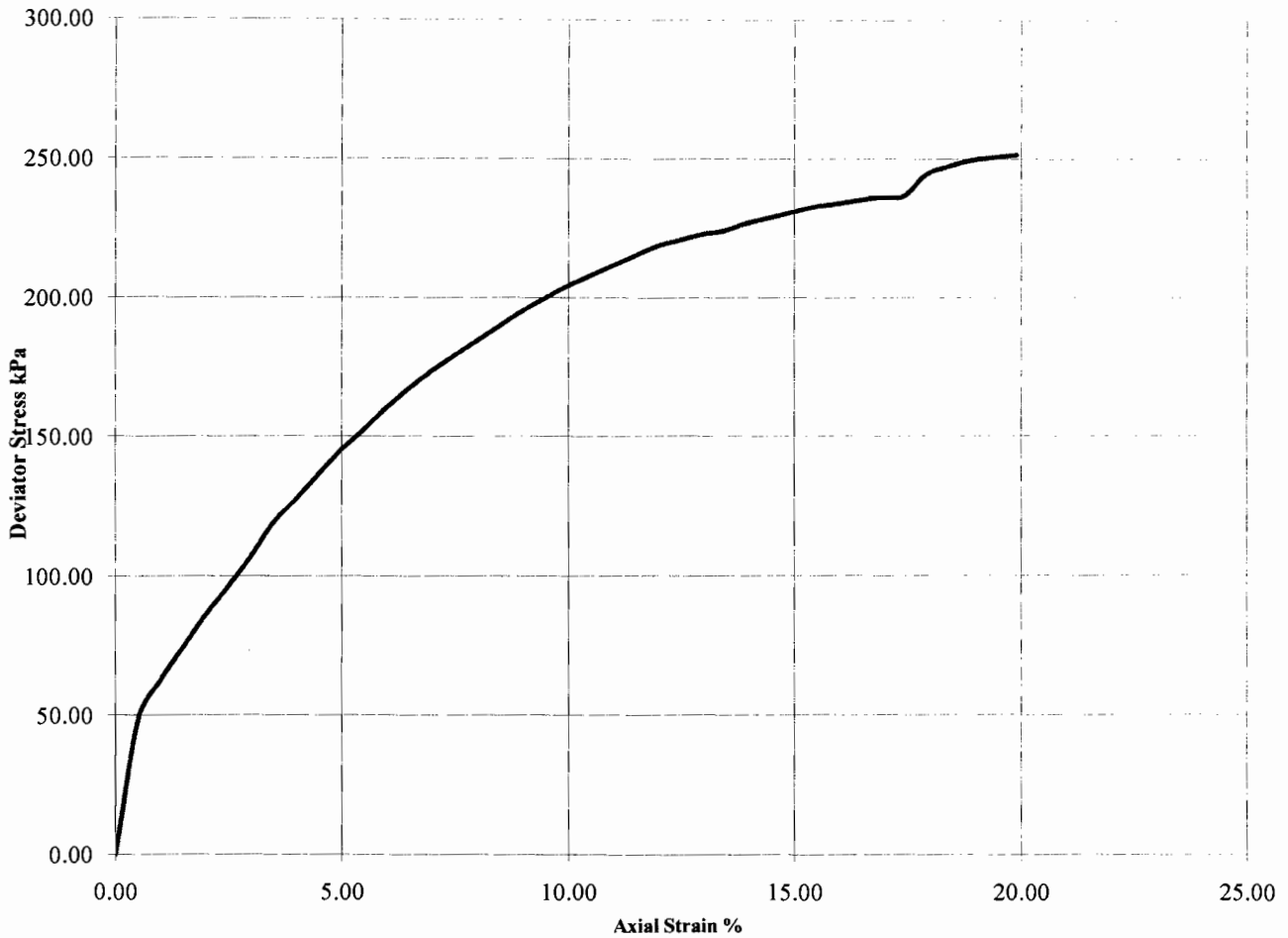


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH19** Sample Number: **8** Depth (m): **3.10-3.55**



Diameter (mm):		103		Height (mm):		201		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	15	2.09	1.81	35	224	112	13.4	Compound			
				70	237	118	17.4				
				140	252	126	19.9				

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7772/09

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LE10104/VE059
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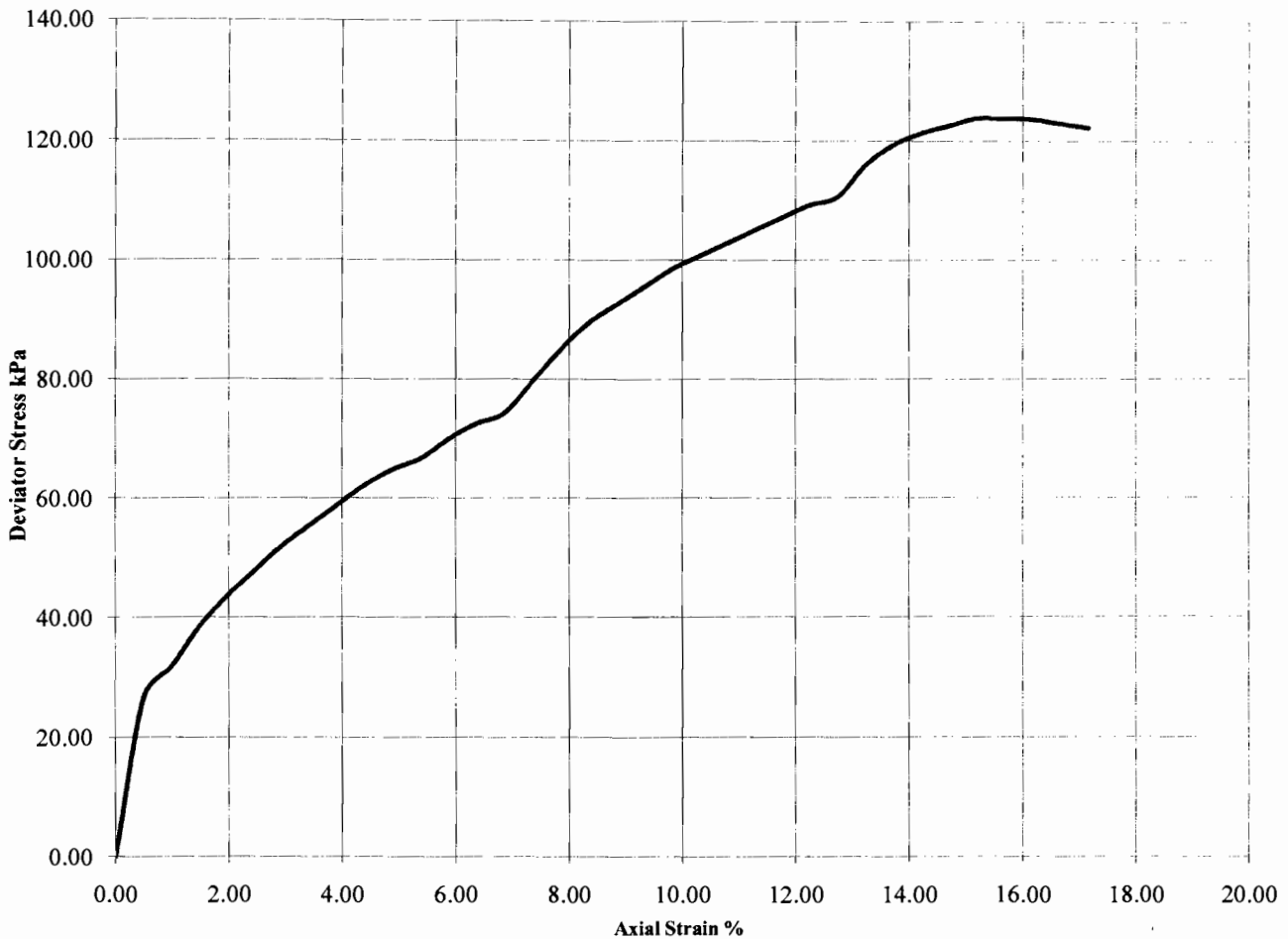


Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part 7 : Clause 8 : 1991

Hole Number: **BH20** Sample Number: **7** Depth (m): **3.20-3.65**



Diameter (mm):		103		Height (mm):		204		Test:		100mm Multistage	
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks		
A	17	1.93	1.64	35	74	37	6.9	Plastic			
				70	111	55	12.7				
				140	124	62	15.2				

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Lostock Works, Cheshire

Contract No.
7772/09

Client Ref No.
LE10104/VE059



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Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix F

Environmental Laboratory Testing

Van Elle Geotechnical Division
Kirkby Lane
Pinxton
Nottinghamshire
NG16 6JAFAO Robert Serjeant
06 May 2009

Dear Robert Serjeant

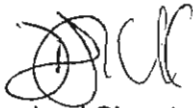
Test Report Number 76255
Your Project Reference LE10104 - Lostock Works, Cheshire

Please find enclosed the results of analysis for the samples received 29 April 2009.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely



Authorised Signatory

<input checked="" type="checkbox"/> Darrell Hall	Laboratory Manager
<input type="checkbox"/> Phil Hellier	Operations Director
<input type="checkbox"/> Keith Jones	Technical Development Manager
<input type="checkbox"/> John Crawford	Quality Manager
<input type="checkbox"/> Malcolm Avis	Technical Director

*Notes to accompany report:*

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u/s means 'unsuitable sample'
- Comments or interpretations are outside of the scope of UKAS accreditation
- The results relate only to the items tested
- Stones represent the quantity of material removed prior to analysis
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37°C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- Soil descriptions, including colour and texture, are beyond the scope of MCertS accreditation

Test Report 76255 Cover Sheet

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

Login Batch No

Chemtest LIMS ID

Sample ID

Sample No

Depth

Matrix

SOP↓ Determinand↓

CAS No↓

Units↓

*

					76255			
					AE00024	AE00025	AE00026	AE00027
					BH19	WS8	WS1	BH3
					1.6	0.6	1.2	0.3
					LEACHATE	LEACHATE	LEACHATE	LEACHATE
1010	pH	PH	-	U	7.0	7.60	9.8	7.7
1450	Arsenic	7440382	µg l ⁻¹	U	5.3	190	930	440
	Cadmium	7440439	µg l ⁻¹	U	<0.5	<0.5	<0.5	<0.5
	Chromium	7440473	µg l ⁻¹	U	5.0	4.8	10	5.5
	Copper	7440508	µg l ⁻¹	U	11	5.6	72	36
	Lead	7439921	µg l ⁻¹	U	4.3	59	14	51
	Mercury	7439976	µg l ⁻¹	U	<0.5	<0.5	<0.5	<0.5
	Nickel	7440020	µg l ⁻¹	U	13	6.4	24	3.9
	Selenium	7782492	µg l ⁻¹	U	3.9	15	170	8.8
	Zinc	7440666	µg l ⁻¹	U	110	20	45	19
1675	TPH aliphatic >C5-C6		µg l ⁻¹	N	<0.1		<0.1	
	TPH aliphatic >C6-C8		µg l ⁻¹	N	<0.1		<0.1	
	TPH aliphatic >C8-C10		µg l ⁻¹	N	<0.1		<0.1	
	TPH aliphatic >C10-C12		µg l ⁻¹	N	<0.1		<0.1	
	TPH aliphatic >C12-C16		µg l ⁻¹	N	<0.1		<0.1	
	TPH aliphatic >C16-C21		µg l ⁻¹	N	<0.1		<0.1	
	TPH aliphatic >C21-C35		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C5-C7		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C7-C8		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C8-C10		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C10-C12		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C12-C16		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C16-C21		µg l ⁻¹	N	<0.1		<0.1	
	TPH aromatic >C21-C35		µg l ⁻¹	N	<0.1		<0.1	
Total Petroleum Hydrocarbons		µg l ⁻¹	N	<10		<10		
1700	Naphthalene	91203	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Acenaphthylene	208968	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Acenaphthene	83329	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Fluorene	86737	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Phenanthrene	85018	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 1 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255			
					AE00024	AE00025	AE00026	AE00027
					BH19	WS8	WS1	BH3
					1.6	0.6	1.2	0.3
					LEACHATE	LEACHATE	LEACHATE	LEACHATE
1700	Anthracene	120127	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Fluoranthene	206440	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Pyrene	129000	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Chrysene	218019	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01
	Total (of 16) PAHs		µg l ⁻¹	N	<0.2	<0.2	<0.2	<0.2
1760	Dichlorodifluoromethane	75718	µg l ⁻¹	U	<1		<1	
	Chloromethane	74873	µg l ⁻¹	U	<1		<1	
	Vinyl chloride	75014	µg l ⁻¹	U	<1		<1	
	Bromomethane	74839	µg l ⁻¹	U	<20		<20	
	Chloroethane	75003	µg l ⁻¹	U	<2		<2	
	Trichlorofluoromethane	75694	µg l ⁻¹	U	<1		<1	
	1,1-Dichloroethene	75354	µg l ⁻¹	U	<1		<1	
	Dichloromethane	75092	µg l ⁻¹	U	ne		ne	
	trans-1,2-Dichloroethene	156605	µg l ⁻¹	U	<1		<1	
	1,1-Dichloroethane	75343	µg l ⁻¹	U	<1		2.4	
	cis-1,2-Dichloroethene	156592	µg l ⁻¹	U	<1		<1	
	Bromochloromethane	74975	µg l ⁻¹	U	<1		<1	
	Trichloromethane	67663	µg l ⁻¹	U	<1		1.4	
	1,1,1-Trichloroethane	71556	µg l ⁻¹	U	<1		<1	
	Tetrachloromethane	56235	µg l ⁻¹	U	<1		<1	
	1,1-Dichloropropene	563586	µg l ⁻¹	U	<1		<1	
	Benzene	71432	µg l ⁻¹	U	<1		<1	
	1,2-Dichloroethane	107062	µg l ⁻¹	U	<2		<2	
	Trichloroethene	79016	µg l ⁻¹	U	<1		<1	

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 2 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255			
					AE00024	AE00025	AE00026	AE00027
					BH19	WS8	WS1	BH3
					1.6	0.6	1.2	0.3
					LEACHATE	LEACHATE	LEACHATE	LEACHATE
1760	1,2-Dichloropropane	78875	µg l ⁻¹	U	<1		<1	
	Dibromomethane	74953	µg l ⁻¹	U	<10		<10	
	Bromodichloromethane	75274	µg l ⁻¹	U	<5		<5	
	cis-1,3-Dichloropropene	10061015	µg l ⁻¹	U	<10		<10	
	Toluene	108883	µg l ⁻¹	U	<1		<1	
	trans-1,3-Dichloropropene	10061026	µg l ⁻¹	U	<10		<10	
	1,1,2-Trichloroethane	79005	µg l ⁻¹	U	<10		<10	
	Tetrachloroethene	127184	µg l ⁻¹	U	<1		<1	
	1,3-Dichloropropane	142289	µg l ⁻¹	U	<2		<2	
	Dibromochloromethane	124481	µg l ⁻¹	U	<10		<10	
	1,2-Dibromoethane	106934	µg l ⁻¹	U	<5		<5	
	Chlorobenzene	108907	µg l ⁻¹	U	<1		<1	
	1,1,1,2-Tetrachloroethane	630206	µg l ⁻¹	U	<2		<2	
	Ethylbenzene	100414	µg l ⁻¹	U	<1		<1	
	m- & p-Xylene	1330207	µg l ⁻¹	U	<1		<1	
	o-Xylene	95476	µg l ⁻¹	U	<1		<1	
	Styrene	100425	µg l ⁻¹	U	<1		<1	
	Tribromomethane	75252	µg l ⁻¹	U	<10		<10	
	Isopropylbenzene	98828	µg l ⁻¹	U	<1		<1	
	Bromobenzene	108861	µg l ⁻¹	U	<1		<1	
	1,1,1,2-Tetrachloroethane	79345	µg l ⁻¹	U	<10		<10	
	1,2,3-Trichloropropane	96184	µg l ⁻¹	U	<50		<50	
	n-Propylbenzene	103651	µg l ⁻¹	U	<1		<1	
	2-Chlorotoluene	95498	µg l ⁻¹	U	<1		<1	
	1,3,5-Trimethylbenzene	108678	µg l ⁻¹	U	<1		<1	
	4-Chlorotoluene	106434	µg l ⁻¹	U	<1		<1	
	tert-Butylbenzene	98066	µg l ⁻¹	U	<1		<1	
	1,2,4-Trimethylbenzene	95636	µg l ⁻¹	U	<1		<1	
	sec-Butylbenzene	135988	µg l ⁻¹	U	<1		<1	
	1,3-Dichlorobenzene	541731	µg l ⁻¹	U	<1		<1	
	4-Isopropyltoluene	99876	µg l ⁻¹	U	<1		<1	

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 3 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255			
					AE00024	AE00025	AE00026	AE00027
					BH19	WS8	WS1	BH3
					1.6	0.6	1.2	0.3
					LEACHATE	LEACHATE	LEACHATE	LEACHATE
1760	1,4-Dichlorobenzene	106467	µg l ⁻¹	U	<1		<1	
	n-Butylbenzene	104518	µg l ⁻¹	U	<1		<1	
	1,2-Dichlorobenzene	95501	µg l ⁻¹	U	<1		<1	
	1,2-Dibromo-3-chloropropane	96128	µg l ⁻¹	U	<50		<50	
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	U	<1		<1	
	Hexachlorobutadiene	87683	µg l ⁻¹	U	<1		<1	
	1,2,3-Trichlorobenzene	87616	µg l ⁻¹	U	<2		<2	
1762	Tentatively Identified Compounds		µg l ⁻¹		None Detected			
1790	N-Nitrosodimethylamine	62759	µg l ⁻¹	N	<0.05		<0.05	
	Phenol	108952	µg l ⁻¹	N	<0.05		<0.05	
	bis(2-Chloroethyl)ether	111444	µg l ⁻¹	N	<0.05		<0.05	
	2-Chlorophenol	95578	µg l ⁻¹	N	<0.05		<0.05	
	1,3-Dichlorobenzene	541731	µg l ⁻¹	N	<0.05		<0.05	
	1,4-Dichlorobenzene	106467	µg l ⁻¹	N	<0.05		<0.05	
	1,2-Dichlorobenzene	95501	µg l ⁻¹	N	<0.05		<0.05	
	2-Methylphenol	95487	µg l ⁻¹	N	<0.05		<0.05	
	bis(2-Chloroisopropyl)ether	108601	µg l ⁻¹	N	<0.05		<0.05	
	4-Methylphenol	106445	µg l ⁻¹	N	<0.05		<0.05	
	N-Nitrosodi-n-propylamine	621647	µg l ⁻¹	N	<0.05		<0.05	
	Hexachloroethane	67721	µg l ⁻¹	N	<0.05		<0.05	
	Nitrobenzene	98953	µg l ⁻¹	N	<0.05		<0.05	
	Isophorone	78591	µg l ⁻¹	N	<0.05		<0.05	
	2-Nitrophenol	88755	µg l ⁻¹	N	<0.05		<0.05	
	2,4-Dimethylphenol	105679	µg l ⁻¹	N	<0.05		<0.05	
	bis(2-Chloroethoxy)methane	111911	µg l ⁻¹	N	<0.05		<0.05	
	2,4-Dichlorophenol	120832	µg l ⁻¹	N	<0.05		<0.05	
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	N	<0.05		<0.05	
	Naphthalene	91203	µg l ⁻¹	N	<0.05		<0.05	
4-Chloroaniline	106478	µg l ⁻¹	N	<0.05		<0.05		
Hexachlorobutadiene	87683	µg l ⁻¹	N	<0.05		<0.05		
4-Chloro-3-methylphenol	59507	µg l ⁻¹	N	<0.05		<0.05		

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 4 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255			
					AE00024	AE00025	AE00026	AE00027
					BH19	WS8	WS1	BH3
					1.6	0.6	1.2	0.3
					LEACHATE	LEACHATE	LEACHATE	LEACHATE
1790	2-Methylnaphthalene	91576	µg l ⁻¹	N	<0.05		<0.05	
	Hexachlorocyclopentadiene	77474	µg l ⁻¹	N	<0.05		<0.05	
	2,4,6-Trichlorophenol	88062	µg l ⁻¹	N	<0.05		<0.05	
	2,4,5-Trichlorophenol	95954	µg l ⁻¹	N	<0.05		<0.05	
	2-Chloronaphthalene	91587	µg l ⁻¹	N	<0.05		<0.05	
	2-Nitroaniline	88744	µg l ⁻¹	N	<0.05		<0.05	
	Dimethylphthalate	131113	µg l ⁻¹	N	<0.05		<0.05	
	2,6-Dinitrotoluene	606202	µg l ⁻¹	N	<0.05		<0.05	
	Acenaphthylene	208968	µg l ⁻¹	N	<0.05		<0.05	
	3-Nitroaniline	99092	µg l ⁻¹	N	<0.05		<0.05	
	Acenaphthene	83329	µg l ⁻¹	N	<0.05		<0.05	
	Dibenzofuran	132649	µg l ⁻¹	N	<0.05		<0.05	
	2,4-Dinitrotoluene	121142	µg l ⁻¹	N	<0.05		<0.05	
	Diethylphthalate	84662	µg l ⁻¹	N	<0.05		<0.05	
	Fluorene	86737	µg l ⁻¹	N	<0.05		<0.05	
	4-Chlorophenylether	7005723	µg l ⁻¹	N	<0.05		<0.05	
	4-Nitroaniline	100016	µg l ⁻¹	N	<0.05		<0.05	
	2-Methyl-4,6-dinitrophenol	534521	µg l ⁻¹	N	<0.05		<0.05	
	Azobenzene	103333	µg l ⁻¹	N	<0.05		<0.05	
	4-Bromophenylphenylether	101553	µg l ⁻¹	N	<0.05		<0.05	
	Hexachlorobenzene	118741	µg l ⁻¹	N	<0.05		<0.05	
	Pentachlorophenol	87865	µg l ⁻¹	N	<0.05		<0.05	
	Phenanthrene	85018	µg l ⁻¹	N	<0.05		<0.05	
	Anthracene	120127	µg l ⁻¹	N	<0.05		<0.05	
	Carbazole	86748	µg l ⁻¹	N	<0.05		<0.05	
	Di-n-butylphthalate	84742	µg l ⁻¹	N	<0.05		<0.05	
	Fluoranthene	206440	µg l ⁻¹	N	<0.05		<0.05	
	Pyrene	129000	µg l ⁻¹	N	<0.05		<0.05	
	Butylbenzylphthalate	85687	µg l ⁻¹	N	<0.05		<0.05	
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.05		<0.05	
	Chrysene	218019	µg l ⁻¹	N	<0.05		<0.05	

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 5 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
 received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255			
					AE00024	AE00025	AE00026	AE00027
					BH19	WS8	WS1	BH3
					1.6	0.6	1.2	0.3
					LEACHATE	LEACHATE	LEACHATE	LEACHATE
1790	bis(2-Ethylhexyl)phthalate	117817	µg l ⁻¹	N	<0.05		<0.05	
	Di-n-octylphthalate	117840	µg l ⁻¹	N	<0.05		<0.05	
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.05		<0.05	
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.05		<0.05	
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.05		<0.05	
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.05		<0.05	
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.05		<0.05	
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.05		<0.05	
1792	Tentatively identified compounds		mg l ⁻¹		None detected		None detected	

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

Report Date
06 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

Login Batch No					76255							
Chemtest LIMS ID					AE00015	AE00016	AE00017	AE00018	AE00019	AE00020	AE00021	AE00022
Sample ID					BH19	BH19	WS8	WS8	WS1	WS1	BH3	BH3
Sample No												
Depth					1.6	4.2	0.6	2.1	1.2	4.6	0.3	3.6
Matrix					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓	Determinand↓	CAS No↓	Units↓	*								
2450	Arsenic	7440382	mg kg ⁻¹	M	20	7.2	350	11	8700	110	2300	49
	Cadmium	7440439	mg kg ⁻¹	M	0.72	<0.1	0.36	<0.1	14	0.25	2.5	0.17
	Chromium	7440473	mg kg ⁻¹	M	39	29	29	35	31	27	27	28
	Copper	7440508	mg kg ⁻¹	M	26	25	110	20	110	23	420	60
	Mercury	7439976	mg kg ⁻¹	M	0.16	<0.1	17	0.29	8.1	0.36	3.5	0.11
	Nickel	7440020	mg kg ⁻¹	M	40	31	77	37	50	28	20	31
	Lead	7439921	mg kg ⁻¹	M	32	9.2	700	15	630	21	750	16
	Selenium	7782492	mg kg ⁻¹	M	<0.2	<0.2	6.7	<0.2	20	1.4	5.0	<0.2
	Zinc	7440666	mg kg ⁻¹	M	260	48	64	49	390	46	230	92
2625	Fraction of Organic Carbon			M	0.0031	< 0.0020	0.17	< 0.0020	0.073	0.0030	0.032	0.0023
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aliphatic >C6-C8		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aliphatic >C8-C10		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aliphatic >C10-C12		mg kg ⁻¹	N	2.1	< 0.1			< 0.1	< 0.1		
	TPH aliphatic >C12-C16		mg kg ⁻¹	N	11	< 0.1			< 0.1	< 0.1		
	TPH aliphatic >C16-C21		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aliphatic >C21-C35		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aromatic >C5-C7		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aromatic >C7-C8		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aromatic >C8-C10		mg kg ⁻¹	N	< 0.1	< 0.1			< 0.1	< 0.1		
	TPH aromatic >C10-C12		mg kg ⁻¹	N	5.1	< 0.1			1.5	< 0.1		
	TPH aromatic >C12-C16		mg kg ⁻¹	N	73	6.7			44	< 0.1		
	TPH aromatic >C16-C21		mg kg ⁻¹	N	280	10			150	< 0.1		
	TPH aromatic >C21-C35		mg kg ⁻¹	N	370	10			280	< 0.1		
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N	740	27			480	< 10		
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U	<1	<1			<1	<1		
	Chloromethane	74873	µg kg ⁻¹	M	<1	<1			<1	<1		
	Vinyl chloride	75014	µg kg ⁻¹	M	<1	<1			<1	<1		
	Bromomethane	74839	µg kg ⁻¹	U	<20	<20			<20	<20		
	Chloroethane	75003	µg kg ⁻¹	U	<2	<2			<2	<2		

LABORATORY TEST REPORT

Results of analysis of 13 samples
 received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

Login Batch No					76255
Chemtest LIMS ID					AE00023
Sample ID					WS11
Sample No					
Depth					0.2
Matrix					SOIL
SOP↓	Determinand↓	CAS No↓	Units↓		
2450	Arsenic	7440382	mg kg ⁻¹	M	89
	Cadmium	7440439	mg kg ⁻¹	M	0.23
	Chromium	7440473	mg kg ⁻¹	M	44
	Copper	7440508	mg kg ⁻¹	M	22
	Mercury	7439976	mg kg ⁻¹	M	0.41
	Nickel	7440020	mg kg ⁻¹	M	54
	Lead	7439921	mg kg ⁻¹	M	44
	Selenium	7782492	mg kg ⁻¹	M	<0.2
	Zinc	7440666	mg kg ⁻¹	M	69
2625	Fraction of Organic Carbon			M	0.0058
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N	
	TPH aliphatic >C6-C8		mg kg ⁻¹	N	
	TPH aliphatic >C8-C10		mg kg ⁻¹	N	
	TPH aliphatic >C10-C12		mg kg ⁻¹	N	
	TPH aliphatic >C12-C16		mg kg ⁻¹	N	
	TPH aliphatic >C16-C21		mg kg ⁻¹	N	
	TPH aliphatic >C21-C35		mg kg ⁻¹	N	
	TPH aromatic >C5-C7		mg kg ⁻¹	N	
	TPH aromatic >C7-C8		mg kg ⁻¹	N	
	TPH aromatic >C8-C10		mg kg ⁻¹	N	
	TPH aromatic >C10-C12		mg kg ⁻¹	N	
	TPH aromatic >C12-C16		mg kg ⁻¹	N	
	TPH aromatic >C16-C21		mg kg ⁻¹	N	
	TPH aromatic >C21-C35		mg kg ⁻¹	N	
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N	
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U	
	Chloromethane	74873	µg kg ⁻¹	M	
	Vinyl chloride	75014	µg kg ⁻¹	M	
	Bromomethane	74839	µg kg ⁻¹	U	
	Chloroethane	75003	µg kg ⁻¹	U	

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

Report Date
06 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255							
					AE00015	AE00016	AE00017	AE00018	AE00019	AE00020	AE00021	AE00022
					BH19	BH19	WS8	WS8	WS1	WS1	BH3	BH3
					1.6	4.2	0.6	2.1	1.2	4.6	0.3	3.6
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,1-Dichloroethene	75354	µg kg ⁻¹	U	<1	<1			<1	5.8		
	Dichloromethane	75092	µg kg ⁻¹	U	ne	ne			ne	ne		
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M	<1	<1			<1	<1		
	1,1-Dichloroethane	75343	µg kg ⁻¹	M	<1	<1			15	9.7		
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M	<1	<1			<1	<1		
	Bromochloromethane	74975	µg kg ⁻¹	U	<1	<1			<1	<1		
	Trichloromethane	67663	µg kg ⁻¹	M	<1	<1			9.9	30		
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M	<1	<1			<1	26		
	Tetrachloromethane	56235	µg kg ⁻¹	M	<1	<1			<1	<1		
	1,1-Dichloropropene	563586	µg kg ⁻¹	U	<1	<1			<1	<1		
	Benzene	71432	µg kg ⁻¹	M	<1	<1			3.3	<1		
	1,2-Dichloroethane	107062	µg kg ⁻¹	M	<2	<2			<2	<2		
	Trichloroethene	79016	µg kg ⁻¹	N	<1	<1			<1	<1		
	1,2-Dichloropropane	78875	µg kg ⁻¹	U	<1	<1			<1	<1		
	Dibromomethane	74953	µg kg ⁻¹	U	<10	<10			<10	<10		
	Bromodichloromethane	75274	µg kg ⁻¹	U	<5	<5			<5	<5		
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U	<10	<10			<10	<10		
	Toluene	108883	µg kg ⁻¹	M	<1	<1			3.2	<1		
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U	<10	<10			<10	<10		
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M	<10	<10			<10	<10		
	Tetrachloroethene	127184	µg kg ⁻¹	M	<1	<1			<1	<1		
	1,3-Dichloropropane	142289	µg kg ⁻¹	U	<2	<2			<2	<2		
	Dibromochloromethane	124481	µg kg ⁻¹	U	<10	<10			<10	<10		
	1,2-Dibromoethane	106934	µg kg ⁻¹	U	<5	<5			<5	<5		
	Chlorobenzene	108907	µg kg ⁻¹	M	<1	<1			<1	<1		
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M	<2	<2			<2	<2		
	Ethylbenzene	100414	µg kg ⁻¹	M	<1	<1			<1	<1		
	m- & p-Xylene	1330207	µg kg ⁻¹	M	<1	<1			<1	<1		
	o-Xylene	95476	µg kg ⁻¹	M	<1	<1			<1	<1		
	Styrene	100425	µg kg ⁻¹	U	<1	<1			<1	<1		

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 8 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
 received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

76255
AE00023
WS11
0.2
SOIL

2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U
	1,1-Dichloroethene	75354	µg kg ⁻¹	U
	Dichloromethane	75092	µg kg ⁻¹	U
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M
	1,1-Dichloroethane	75343	µg kg ⁻¹	M
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M
	Bromochloromethane	74975	µg kg ⁻¹	U
	Trichloromethane	67663	µg kg ⁻¹	M
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M
	Tetrachloromethane	56235	µg kg ⁻¹	M
	1,1-Dichloropropene	563586	µg kg ⁻¹	U
	Benzene	71432	µg kg ⁻¹	M
	1,2-Dichloroethane	107062	µg kg ⁻¹	M
	Trichloroethene	79016	µg kg ⁻¹	N
	1,2-Dichloropropane	78875	µg kg ⁻¹	U
	Dibromomethane	74953	µg kg ⁻¹	U
	Bromodichloromethane	75274	µg kg ⁻¹	U
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U
	Toluene	108883	µg kg ⁻¹	M
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M
	Tetrachloroethene	127184	µg kg ⁻¹	M
	1,3-Dichloropropane	142289	µg kg ⁻¹	U
	Dibromochloromethane	124481	µg kg ⁻¹	U
	1,2-Dibromoethane	106934	µg kg ⁻¹	U
	Chlorobenzene	108907	µg kg ⁻¹	M
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M
	Ethylbenzene	100414	µg kg ⁻¹	M
	m- & p-Xylene	1330207	µg kg ⁻¹	M
	o-Xylene	95476	µg kg ⁻¹	M
	Styrene	100425	µg kg ⁻¹	U

All tests undertaken between 29-Apr-2009 and 6-May-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 8 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

Report Date
06 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255							
					AE00015	AE00016	AE00017	AE00018	AE00019	AE00020	AE00021	AE00022
					BH19	BH19	WS8	WS8	WS1	WS1	BH3	BH3
					1.6	4.2	0.6	2.1	1.2	4.6	0.3	3.6
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Tribromomethane	75252	µg kg ⁻¹	U	<10	<10			<10	<10		
	Isopropylbenzene	98828	µg kg ⁻¹	U	<1	<1			<1	<1		
	Bromobenzene	108861	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M	<10	<10			<10	<10		
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U	<50	<50			<50	<50		
	n-Propylbenzene	103651	µg kg ⁻¹	U	<1	<1			<1	<1		
	2-Chlorotoluene	95498	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U	2.1	<1			<1	<1		
	4-Chlorotoluene	106434	µg kg ⁻¹	U	<1	<1			<1	<1		
	tert-Butylbenzene	98066	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U	<1	<1			<1	<1		
	sec-Butylbenzene	135988	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U	<1	<1			<1	<1		
	4-Isopropyltoluene	99876	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U	<1	<1			<1	<1		
	n-Butylbenzene	104518	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U	<50	<50			<50	<50		
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U	<1	<1			<1	<1		
	Hexachlorobutadiene	87683	µg kg ⁻¹	U	<1	<1			<1	<1		
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U	<2	<2			<2	<2		
2762	Tentatively Identified Compounds		µg kg ⁻¹		None Detected	None Detected			None Detected	None Detected		
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Phenol	108952	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2-Chlorophenol	95578	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2-Methylphenol	95487	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 9 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
 received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

76255
AE00023
WS11
0.2
SOIL

2760	Tribromomethane	75252	µg kg ⁻¹	U
	Isopropylbenzene	98828	µg kg ⁻¹	U
	Bromobenzene	108861	µg kg ⁻¹	U
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U
	n-Propylbenzene	103651	µg kg ⁻¹	U
	2-Chlorotoluene	95498	µg kg ⁻¹	U
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U
	4-Chlorotoluene	106434	µg kg ⁻¹	U
	tert-Butylbenzene	98066	µg kg ⁻¹	U
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U
	sec-Butylbenzene	135988	µg kg ⁻¹	U
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U
	4-Isopropyltoluene	99876	µg kg ⁻¹	U
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U
	n-Butylbenzene	104518	µg kg ⁻¹	U
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U
	Hexachlorobutadiene	87683	µg kg ⁻¹	U
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U
2762	Tentatively Identified Compounds		µg kg ⁻¹	
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N
	Phenol	108952	mg kg ⁻¹	N
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N
	2-Chlorophenol	95578	mg kg ⁻¹	N
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N
	2-Methylphenol	95487	mg kg ⁻¹	N
	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N

All tests undertaken between 29-Apr-2009 and 6-May-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 9 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

Report Date
06 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255							
					AE00015	AE00016	AE00017	AE00018	AE00019	AE00020	AE00021	AE00022
					BH19	BH19	WS8	WS8	WS1	WS1	BH3	BH3
					1.6	4.2	0.6	2.1	1.2	4.6	0.3	3.6
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	4-Methylphenol	106445	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Hexachloroethane	67721	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Nitrobenzene	98953	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Isophorone	78591	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2-Nitrophenol	88755	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Naphthalene	91203	mg kg ⁻¹	N	0.95	<0.5			1.2	<0.5		
	4-Chloroaniline	106478	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Hexachlorobutadiene	87683	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2-Methylnaphthalene	91576	mg kg ⁻¹	N	0.60	<0.5			<0.5	<0.5		
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2-Chloronaphthalene	91587	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2-Nitroaniline	88744	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Dimethylphthalate	131113	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Acenaphthylene	208968	mg kg ⁻¹	N	1.8	<0.5			1.5	<0.5		
	3-Nitroaniline	99092	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Acenaphthene	83329	mg kg ⁻¹	N	0.67	<0.5			<0.5	<0.5		
	Dibenzofuran	132649	mg kg ⁻¹	N	1.7	<0.5			0.75	<0.5		
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Diethylphthalate	84662	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Fluorene	86737	mg kg ⁻¹	N	3.0	<0.5			0.78	<0.5		
	4-Chlorophenylether	7005723	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	4-Nitroaniline	100016	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 10 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
 received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

76255
AE00023
WS11
0.2
SOIL

2790	4-Methylphenol	106445	mg kg ⁻¹	N
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N
	Hexachloroethane	67721	mg kg ⁻¹	N
	Nitrobenzene	98953	mg kg ⁻¹	N
	Isophorone	78591	mg kg ⁻¹	N
	2-Nitrophenol	88755	mg kg ⁻¹	N
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N
	Naphthalene	91203	mg kg ⁻¹	N
	4-Chloroaniline	106478	mg kg ⁻¹	N
	Hexachlorobutadiene	87683	mg kg ⁻¹	N
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N
	2-Methylnaphthalene	91576	mg kg ⁻¹	N
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N
	2-Chloronaphthalene	91587	mg kg ⁻¹	N
	2-Nitroaniline	88744	mg kg ⁻¹	N
	Dimethylphthalate	131113	mg kg ⁻¹	N
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N
	Acenaphthylene	208968	mg kg ⁻¹	N
	3-Nitroaniline	99092	mg kg ⁻¹	N
	Acenaphthene	83329	mg kg ⁻¹	N
	Dibenzofuran	132649	mg kg ⁻¹	N
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N
	Diethylphthalate	84662	mg kg ⁻¹	N
	Fluorene	86737	mg kg ⁻¹	N
	4-Chlorophenylether	7005723	mg kg ⁻¹	N
	4-Nitroaniline	100016	mg kg ⁻¹	N

All tests undertaken between 29-Apr-2009 and 6-May-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 10 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

Report Date
06 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255							
					AE00015	AE00016	AE00017	AE00018	AE00019	AE00020	AE00021	AE00022
					BH19	BH19	WS8	WS8	WS1	WS1	BH3	BH3
					1.6	4.2	0.6	2.1	1.2	4.6	0.3	3.6
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Azobenzene	103333	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Hexachlorobenzene	118741	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Pentachlorophenol	87865	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Phenanthrene	85018	mg kg ⁻¹	N	23	<0.5			18	<0.5		
	Anthracene	120127	mg kg ⁻¹	N	5.2	<0.5			5.4	<0.5		
	Carbazole	86748	mg kg ⁻¹	N	1.3	<0.5			1.4	<0.5		
	Di-n-butylphthalate	84742	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Fluoranthene	206440	mg kg ⁻¹	N	27	<0.5			29	<0.5		
	Pyrene	129000	mg kg ⁻¹	N	21	<0.5			23	<0.5		
	Butylbenzylphthalate	85687	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Benzo[a]anthracene	56553	mg kg ⁻¹	N	11	<0.5			15	<0.5		
	Chrysene	218019	mg kg ⁻¹	N	9.2	<0.5			10	<0.5		
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Di-n-octylphthalate	117840	mg kg ⁻¹	N	<0.5	<0.5			<0.5	<0.5		
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N	11	<0.5			12	<0.5		
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	3.7	<0.5			3.7	<0.5		
	Benzo[a]pyrene	50328	mg kg ⁻¹	N	8.7	<0.5			9.6	<0.5		
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N	3.9	<0.5			3.5	<0.5		
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	0.98	<0.5			1.2	<0.5		
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N	4.2	<0.5			3.5	<0.5		
2792	Tentatively Identified Compounds		mg kg ⁻¹		none detected	none detected			none detected	none detected		
2800	Naphthalene	91203	mg kg ⁻¹	M	0.8	<0.1	52	<0.1	1.6	<0.1	0.5	<0.1
	Acenaphthylene	208968	mg kg ⁻¹	N	1.4	<0.1	1.8	<0.1	0.9	<0.1	0.3	<0.1
	Acenaphthene	83329	mg kg ⁻¹	M	0.4	<0.1	8.5	<0.1	0.2	<0.1	0.3	<0.1
	Fluorene	86737	mg kg ⁻¹	M	2.2	<0.1	8.4	<0.1	0.7	<0.1	0.4	<0.1
	Phenanthrene	85018	mg kg ⁻¹	M	18	1.5	70	0.1	12	0.1	5.5	<0.1
	Anthracene	120127	mg kg ⁻¹	M	4.3	0.3	14	<0.1	3.2	<0.1	1.2	<0.1
	Fluoranthene	206440	mg kg ⁻¹	M	23	2.3	70	0.2	21	0.4	8.5	0.3
	Pyrene	129000	mg kg ⁻¹	M	18	1.7	67	0.2	18	0.3	7.3	0.2

All tests undertaken between 29-Apr-2009 and 6-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 11 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255
					AE00023
					WS11
					0.2
					SOIL
2790	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N	
	Azobenzene	103333	mg kg ⁻¹	N	
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N	
	Hexachlorobenzene	118741	mg kg ⁻¹	N	
	Pentachlorophenol	87865	mg kg ⁻¹	N	
	Phenanthrene	85018	mg kg ⁻¹	N	
	Anthracene	120127	mg kg ⁻¹	N	
	Carbazole	86748	mg kg ⁻¹	N	
	Di-n-butylphthalate	84742	mg kg ⁻¹	N	
	Fluoranthene	206440	mg kg ⁻¹	N	
	Pyrene	129000	mg kg ⁻¹	N	
	Butylbenzylphthalate	85687	mg kg ⁻¹	N	
	Benzo[a]anthracene	56553	mg kg ⁻¹	N	
	Chrysene	218019	mg kg ⁻¹	N	
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N	
	Di-n-octylphthalate	117840	mg kg ⁻¹	N	
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N	
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	
	Benzo[a]pyrene	50328	mg kg ⁻¹	N	
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N	
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N	
2792	Tentatively Identified Compounds		mg kg ⁻¹		
2800	Naphthalene	91203	mg kg ⁻¹	M	<0.1
	Acenaphthylene	208968	mg kg ⁻¹	N	<0.1
	Acenaphthene	83329	mg kg ⁻¹	M	<0.1
	Fluorene	86737	mg kg ⁻¹	M	<0.1
	Phenanthrene	85018	mg kg ⁻¹	M	<0.1
	Anthracene	120127	mg kg ⁻¹	M	<0.1
	Fluoranthene	206440	mg kg ⁻¹	M	0.2
	Pyrene	129000	mg kg ⁻¹	M	0.2

All tests undertaken between 29-Apr-2009 and 6-May-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 11 of 12

Report sample ID range AE00015 to AE00027

LABORATORY TEST REPORT

Report Date
06 May 2009

Results of analysis of 13 samples
received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					76255							
					AE00015	AE00016	AE00017	AE00018	AE00019	AE00020	AE00021	AE00022
					BH19	BH19	WS8	WS8	WS1	WS1	BH3	BH3
					1.6	4.2	0.6	2.1	1.2	4.6	0.3	3.6
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2800	Benzo[a]anthracene	56553	mg kg ⁻¹	M	9.7	0.8	39	0.2	12	0.2	4.1	<0.1
	Chrysene	218019	mg kg ⁻¹	M	8.9	1	38	0.3	11	0.2	4.5	0.1
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	11	1.1	43	0.3	13	0.2	5.6	0.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	2.9	0.3	11	<0.1	3.7	<0.1	1.6	<0.1
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	7.4	0.7	33	0.1	9.7	0.1	3.9	<0.1
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	0.7	<0.1	5.6	<0.1	1.2	<0.1	0.3	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	3.7	0.2	15	<0.1	4.7	<0.1	2	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	4.5	0.2	19	<0.1	5.2	<0.1	2.2	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	N	120	10	500	<2	120	<2	48	<2
2010	pH		-	M	7.6	8.2	7.7	8.4	8.1	8.0	7.6	7.9
2030	Moisture		%	n/a	13.6	11.7	17.6	12.5	18.1	10.6	9.88	19.3
	Stone content (as received)		%	n/a	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2140	Soil colour			n/a	brown	brown	brown	brown	brown	brown	brown	brown
	Soil texture			n/a	clay	clay	sand	clay	sand	clay	sand	clay
	Other material			n/a	none	none	stones	none	stones	none	stones	none
2186	Asbestos Containing Material		-	N	not found	not found			not found	not found		

LABORATORY TEST REPORT

Results of analysis of 13 samples
 received 29 April 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

76255
AE00023
WS11
0.2
SOIL

2800	Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1
	Chrysene	218019	mg kg ⁻¹	M	<0.1
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.1
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	N	<2
2010	pH		-	M	9.0
2030	Moisture		%	n/a	7.34
	Stone content (as received)		%	n/a	<0.02
2140	Soil colour			n/a	brown
	Soil texture			n/a	sand
	Other material			n/a	stones
2186	Asbestos Containing Material		-	N	

Van Elle Geotechnical Division
Kirkby Lane
Pinxton
Nottinghamshire
NG16 6JAFAO Andy Johnston
30 April 2009

Dear Andy Johnston

Test Report Number 94530
Your Project Reference LE10104 - Lostock Works, Cheshire

Please find enclosed the results of analysis for the samples received 22 April 2009.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely



Authorised Signatory

<input type="checkbox"/>	Darrell Hall	Laboratory Manager
<input type="checkbox"/>	Phil Hellier	Operations Director
<input checked="" type="checkbox"/>	Keith Jones	Technical Development Manager
<input type="checkbox"/>	John Crawford	Quality Manager
<input type="checkbox"/>	Malcolm Avis	Technical Director



2183

**Notes to accompany report:**

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u/s means 'unsuitable sample'
- Comments or interpretations are outside of the scope of UKAS accreditation
- The results relate only to the items tested
- Stones represent the quantity of material removed prior to analysis
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37°C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- Soil descriptions, including colour and texture, are beyond the scope of MCertS accreditation

Test Report 94530 Cover Sheet

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

Login Batch No

Chemtest LIMS ID

Sample ID

Sample No

Depth

Matrix

SOP ↓ Determinand ↓

CAS No ↓

Units ↓

*

					94530							
					AD98221	AD98222	AD98223	AD98224	AD98225	AD98226	AD98227	AD98228
					TP3	TP1	TP4	BH5	WS2	WS9	BH19	TP12
					0.5	0.4	0.4	2.1	0.7	0.3	0.5	1.6
					LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
1010	pH	PH	-	U	7.1	7.5	5.1	7.4	7.9	7.6	7.7	11.5
1450	Arsenic	7440382	µg l ⁻¹	U	670	260	26000	210	280	420	67	2.7
	Cadmium	7440439	µg l ⁻¹	U	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chromium	7440473	µg l ⁻¹	U	4.5	1.4	8.2	2.1	3.2	2.5	5.0	23
	Copper	7440508	µg l ⁻¹	U	4.9	6.3	5.9	5.3	4.6	6.0	15	15
	Lead	7439921	µg l ⁻¹	U	4.7	9.2	1.7	6.8	<1	4.0	130	1.0
	Mercury	7439976	µg l ⁻¹	U	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Nickel	7440020	µg l ⁻¹	U	72	20	43	11	4.0	5.3	5.2	16
	Selenium	7782492	µg l ⁻¹	U	11	59	400	9.8	7.9	27	6.7	4.1
	Zinc	7440666	µg l ⁻¹	U	17	58	60	27	17	20	26	3.6
1675	TPH aliphatic >C5-C6		µg l ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C6-C8		µg l ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aliphatic >C8-C10		µg l ⁻¹	N	<0.1	<0.1	22	<0.1	<0.1	<0.1	2.2	<0.1
	TPH aliphatic >C10-C12		µg l ⁻¹	N	<0.1	<0.1	27	<0.1	<0.1	<0.1	370	<0.1
	TPH aliphatic >C12-C16		µg l ⁻¹	N	<0.1	<0.1	95	<0.1	<0.1	<0.1	190	<0.1
	TPH aliphatic >C16-C21		µg l ⁻¹	N	<0.1	<0.1	46	<0.1	<0.1	<0.1	120	<0.1
	TPH aliphatic >C21-C35		µg l ⁻¹	N	<0.1	<0.1	4.9	<0.1	<0.1	<0.1	37	<0.1
	TPH aromatic >C5-C7		µg l ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C7-C8		µg l ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	TPH aromatic >C8-C10		µg l ⁻¹	N	<0.1	<0.1	19	<0.1	<0.1	<0.1	7.5	<0.1
	TPH aromatic >C10-C12		µg l ⁻¹	N	<0.1	<0.1	750	<0.1	<0.1	<0.1	600	<0.1
	TPH aromatic >C12-C16		µg l ⁻¹	N	<0.1	<0.1	440	<0.1	<0.1	<0.1	750	<0.1
	TPH aromatic >C16-C21		µg l ⁻¹	N	<0.1	<0.1	290	<0.1	<0.1	<0.1	450	<0.1
	TPH aromatic >C21-C35		µg l ⁻¹	N	<0.1	<0.1	110	<0.1	<0.1	<0.1	160	<0.1
Total Petroleum Hydrocarbons		µg l ⁻¹	N	<10	<10	1800	<10	<10	<10	2700	<10	
1700	Naphthalene	91203	µg l ⁻¹	N	<0.01	<0.01	598.8	<0.01	<0.01	<0.01	278.7	<0.01
	Acenaphthylene	208968	µg l ⁻¹	N	<0.01	<0.01	6.35	<0.01	<0.01	<0.01	50.47	<0.01
	Acenaphthene	83329	µg l ⁻¹	N	<0.01	<0.01	2.39	<0.01	<0.01	<0.01	30.34	<0.01
	Fluorene	86737	µg l ⁻¹	N	<0.01	<0.01	5.6	<0.01	<0.01	<0.01	55.66	<0.01
	Phenanthrene	85018	µg l ⁻¹	N	<0.01	<0.01	10.38	<0.01	<0.01	<0.01	107.5	<0.01

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 1 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
 received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

Login Batch No					94530
Chemtest LIMS ID					AD98229
Sample ID					TP13
Sample No					
Depth					0.3
Matrix					LEACHATE
SOP↓	Determinand↓	CAS No↓	Units↓		
1010	pH	PH	-	U	8.9
1450	Arsenic	7440382	µg l ⁻¹	U	6.0
	Cadmium	7440439	µg l ⁻¹	U	<0.5
	Chromium	7440473	µg l ⁻¹	U	3.7
	Copper	7440508	µg l ⁻¹	U	1.6
	Lead	7439921	µg l ⁻¹	U	<1
	Mercury	7439976	µg l ⁻¹	U	<0.5
	Nickel	7440020	µg l ⁻¹	U	1.5
	Selenium	7782492	µg l ⁻¹	U	<1
	Zinc	7440666	µg l ⁻¹	U	<1
1675	TPH aliphatic >C5-C6		µg l ⁻¹	N	<0.1
	TPH aliphatic >C6-C8		µg l ⁻¹	N	<0.1
	TPH aliphatic >C8-C10		µg l ⁻¹	N	<0.1
	TPH aliphatic >C10-C12		µg l ⁻¹	N	<0.1
	TPH aliphatic >C12-C16		µg l ⁻¹	N	<0.1
	TPH aliphatic >C16-C21		µg l ⁻¹	N	<0.1
	TPH aliphatic >C21-C35		µg l ⁻¹	N	<0.1
	TPH aromatic >C5-C7		µg l ⁻¹	N	<0.1
	TPH aromatic >C7-C8		µg l ⁻¹	N	<0.1
	TPH aromatic >C8-C10		µg l ⁻¹	N	<0.1
	TPH aromatic >C10-C12		µg l ⁻¹	N	<0.1
	TPH aromatic >C12-C16		µg l ⁻¹	N	<0.1
	TPH aromatic >C16-C21		µg l ⁻¹	N	<0.1
	TPH aromatic >C21-C35		µg l ⁻¹	N	<0.1
	Total Petroleum Hydrocarbons		µg l ⁻¹	N	<10
1700	Naphthalene	91203	µg l ⁻¹	N	<0.01
	Acenaphthylene	208968	µg l ⁻¹	N	<0.01
	Acenaphthene	83329	µg l ⁻¹	N	<0.01
	Fluorene	86737	µg l ⁻¹	N	<0.01
	Phenanthrene	85018	µg l ⁻¹	N	<0.01

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98221	AD98222	AD98223	AD98224	AD98225	AD98226	AD98227	AD98228
					TP3	TP1	TP4	BH5	WS2	WS9	BH19	TP12
					0.5	0.4	0.4	2.1	0.7	0.3	0.5	1.6
					LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
1700	Anthracene	120127	µg l ⁻¹	N	<0.01	<0.01	6.37	<0.01	<0.01	<0.01	34.75	<0.01
	Fluoranthene	206440	µg l ⁻¹	N	<0.01	<0.01	12.52	<0.01	<0.01	<0.01	60.88	<0.01
	Pyrene	129000	µg l ⁻¹	N	<0.01	<0.01	6.02	<0.01	<0.01	<0.01	47.09	<0.01
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	13.38	<0.01
	Chrysene	218019	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	10.57	<0.01
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Total (of 16) PAHs		µg l ⁻¹	N	<0.2	<0.2	648.4	<0.2	<0.2	<0.2	689.3	<0.2
	1760	Dichlorodifluoromethane	75718	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1
Chloromethane		74873	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride		75014	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane		74839	µg l ⁻¹	U	<20	<20	<20	<20	<20	<20	<20	<20
Chloroethane		75003	µg l ⁻¹	U	<2	<2	<2	<2	<2	<2	<2	<2
Trichlorofluoromethane		75694	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene		75354	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Dichloromethane		75092	µg l ⁻¹	U	ne	ne	ne	ne	ne	ne	ne	ne
trans-1,2-Dichloroethene		156605	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane		75343	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene		156592	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane		74975	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Trichloromethane		67663	µg l ⁻¹	U	<1	2.2	34	<1	<1	<1	<1	<1
1,1,1-Trichloroethane		71556	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloromethane		56235	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene		563586	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	71432	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	6.1	<1	
1,2-Dichloroethane	107062	µg l ⁻¹	U	<2	<2	<2	<2	<2	<2	<2	<2	
Trichloroethene	79016	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1	

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 2 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

		94530				
		AD98229				
		TP13				
		0.3				
		LEACHATE				
1700	Anthracene	120127	µg l ⁻¹	N	<0.01	
	Fluoranthene	206440	µg l ⁻¹	N	<0.01	
	Pyrene	129000	µg l ⁻¹	N	<0.01	
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.01	
	Chrysene	218019	µg l ⁻¹	N	<0.01	
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.01	
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.01	
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.01	
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.01	
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.01	
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.01	
	Total (of 16) PAHs		µg l ⁻¹	N	<0.2	
	1760	Dichlorodifluoromethane	75718	µg l ⁻¹	U	<1
		Chloromethane	74873	µg l ⁻¹	U	<1
Vinyl chloride		75014	µg l ⁻¹	U	<1	
Bromomethane		74839	µg l ⁻¹	U	<20	
Chloroethane		75003	µg l ⁻¹	U	<2	
Trichlorofluoromethane		75694	µg l ⁻¹	U	<1	
1,1-Dichloroethene		75354	µg l ⁻¹	U	<1	
Dichloromethane		75092	µg l ⁻¹	U	ne	
trans-1,2-Dichloroethene		156605	µg l ⁻¹	U	<1	
1,1-Dichloroethane		75343	µg l ⁻¹	U	<1	
cis-1,2-Dichloroethene		156592	µg l ⁻¹	U	<1	
Bromochloromethane		74975	µg l ⁻¹	U	<1	
Trichloromethane		67663	µg l ⁻¹	U	<1	
1,1,1-Trichloroethane		71556	µg l ⁻¹	U	<1	
Tetrachloromethane		56235	µg l ⁻¹	U	<1	
1,1-Dichloropropene		563586	µg l ⁻¹	U	<1	
Benzene		71432	µg l ⁻¹	U	<1	
1,2-Dichloroethane		107062	µg l ⁻¹	U	<2	
Trichloroethene		79016	µg l ⁻¹	U	<1	

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 2 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Report Date
30 April 2009

Results of analysis of 39 samples
received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98221	AD98222	AD98223	AD98224	AD98225	AD98226	AD98227	AD98228
					TP3	TP1	TP4	BH5	WS2	WS9	BH19	TP12
					0.5	0.4	0.4	2.1	0.7	0.3	0.5	1.6
					LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
1760	1,2-Dichloropropane	78875	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Dibromomethane	74953	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Bromodichloromethane	75274	µg l ⁻¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Toluene	108883	µg l ⁻¹	U	<1	<1	1.1	<1	<1	<1	2.4	<1
	trans-1,3-Dichloropropene	10061026	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Tetrachloroethene	127184	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg l ⁻¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Dibromochloromethane	124481	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg l ⁻¹	U	<5	<5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	108907	µg l ⁻¹	U	<1	<1	3.1	<1	<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg l ⁻¹	U	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	100414	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	m- & p-Xylene	1330207	µg l ⁻¹	U	<1	<1	5.9	<1	<1	<1	1.8	<1
	o-Xylene	95476	µg l ⁻¹	U	<1	<1	4.7	<1	<1	<1	1.4	<1
	Styrene	100425	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Tribromomethane	75252	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	Isopropylbenzene	98828	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Bromobenzene	108861	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	79345	µg l ⁻¹	U	<10	<10	<10	<10	<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg l ⁻¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	n-Propylbenzene	103651	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	2-Chlorotoluene	95498	µg l ⁻¹	U	<1	<1	10	<1	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	1	<1
	4-Chlorotoluene	106434	µg l ⁻¹	U	<1	<1	4.7	<1	<1	<1	<1	<1
	tert-Butylbenzene	98066	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg l ⁻¹	U	<1	<1	8.8	<1	<1	<1	1.5	<1
	sec-Butylbenzene	135988	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg l ⁻¹	U	<1	<1	16	<1	<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 3 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
 received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530
					AD98229
					TP13
					0.3
					LEACHATE
1760	1,2-Dichloropropane	78875	µg l ⁻¹	U	<1
	Dibromomethane	74953	µg l ⁻¹	U	<10
	Bromodichloromethane	75274	µg l ⁻¹	U	<5
	cis-1,3-Dichloropropene	10061015	µg l ⁻¹	U	<10
	Toluene	108883	µg l ⁻¹	U	<1
	trans-1,3-Dichloropropene	10061026	µg l ⁻¹	U	<10
	1,1,2-Trichloroethane	79005	µg l ⁻¹	U	<10
	Tetrachloroethene	127184	µg l ⁻¹	U	<1
	1,3-Dichloropropane	142289	µg l ⁻¹	U	<2
	Dibromochloromethane	124481	µg l ⁻¹	U	<10
	1,2-Dibromoethane	106934	µg l ⁻¹	U	<5
	Chlorobenzene	108907	µg l ⁻¹	U	<1
	1,1,1,2-Tetrachloroethane	630206	µg l ⁻¹	U	<2
	Ethylbenzene	100414	µg l ⁻¹	U	<1
	m- & p-Xylene	1330207	µg l ⁻¹	U	<1
	o-Xylene	95476	µg l ⁻¹	U	<1
	Styrene	100425	µg l ⁻¹	U	<1
	Tribromomethane	75252	µg l ⁻¹	U	<10
	Isopropylbenzene	98828	µg l ⁻¹	U	<1
	Bromobenzene	108861	µg l ⁻¹	U	<1
	1,1,2,2-Tetrachloroethane	79345	µg l ⁻¹	U	<10
	1,2,3-Trichloropropane	96184	µg l ⁻¹	U	<50
	n-Propylbenzene	103651	µg l ⁻¹	U	<1
	2-Chlorotoluene	95498	µg l ⁻¹	U	<1
	1,3,5-Trimethylbenzene	108678	µg l ⁻¹	U	<1
	4-Chlorotoluene	106434	µg l ⁻¹	U	<1
	tert-Butylbenzene	98066	µg l ⁻¹	U	<1
	1,2,4-Trimethylbenzene	95636	µg l ⁻¹	U	<1
	sec-Butylbenzene	135988	µg l ⁻¹	U	<1
	1,3-Dichlorobenzene	541731	µg l ⁻¹	U	<1
	4-Isopropyltoluene	99876	µg l ⁻¹	U	<1

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 3 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98221	AD98222	AD98223	AD98224	AD98225	AD98226	AD98227	AD98228
					TP3	TP1	TP4	BH5	WS2	WS9	BH19	TP12
					0.5	0.4	0.4	2.1	0.7	0.3	0.5	1.6
					LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
1760	1,4-Dichlorobenzene	106467	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	n-Butylbenzene	104518	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg l ⁻¹	U	<1	<1	12	<1	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg l ⁻¹	U	<50	<50	<50	<50	<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	Hexachlorobutadiene	87683	µg l ⁻¹	U	<1	<1	<1	<1	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg l ⁻¹	U	<2	<2	<2	<2	<2	<2	<2	<2
1762	Tentatively Identified Compounds		µg l ⁻¹		None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected	None Detected
1790	N-Nitrosodimethylamine	62759	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenol	108952	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	bis(2-Chloroethyl)ether	111444	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2-Chlorophenol	95578	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	1,3-Dichlorobenzene	541731	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	1,4-Dichlorobenzene	106467	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	1,2-Dichlorobenzene	95501	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2-Methylphenol	95487	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	bis(2-Chloroisopropyl)ether	108601	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	4-Methylphenol	106445	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	N-Nitrosodi-n-propylamine	621647	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachloroethane	67721	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nitrobenzene	98953	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Isophorone	78591	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2-Nitrophenol	88755	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2,4-Dimethylphenol	105679	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	bis(2-Chloroethoxy)methane	111911	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2,4-Dichlorophenol	120832	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Naphthalene	91203	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Chloroaniline	106478	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobutadiene	87683	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
4-Chloro-3-methylphenol	59507	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 4 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
 received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

		94530			
		AD98229			
		TP13			
		0.3			
		LEACHATE			
1760	1,4-Dichlorobenzene	106467	µg l ⁻¹	U	<1
	n-Butylbenzene	104518	µg l ⁻¹	U	<1
	1,2-Dichlorobenzene	95501	µg l ⁻¹	U	<1
	1,2-Dibromo-3-chloropropane	96128	µg l ⁻¹	U	<50
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	U	<1
	Hexachlorobutadiene	87683	µg l ⁻¹	U	<1
	1,2,3-Trichlorobenzene	87616	µg l ⁻¹	U	<2
1762	Tentatively Identified Compounds		µg l ⁻¹		None Detected
1790	N-Nitrosodimethylamine	62759	µg l ⁻¹	N	<0.05
	Phenol	108952	µg l ⁻¹	N	<0.05
	bis(2-Chloroethyl)ether	111444	µg l ⁻¹	N	<0.05
	2-Chlorophenol	95578	µg l ⁻¹	N	<0.05
	1,3-Dichlorobenzene	541731	µg l ⁻¹	N	<0.05
	1,4-Dichlorobenzene	106467	µg l ⁻¹	N	<0.05
	1,2-Dichlorobenzene	95501	µg l ⁻¹	N	<0.05
	2-Methylphenol	95487	µg l ⁻¹	N	<0.05
	bis(2-Chloroisopropyl)ether	108601	µg l ⁻¹	N	<0.05
	4-Methylphenol	106445	µg l ⁻¹	N	<0.05
	N-Nitrosodi-n-propylamine	621647	µg l ⁻¹	N	<0.05
	Hexachloroethane	67721	µg l ⁻¹	N	<0.05
	Nitrobenzene	98953	µg l ⁻¹	N	<0.05
	Isophorone	78591	µg l ⁻¹	N	<0.05
	2-Nitrophenol	88755	µg l ⁻¹	N	<0.05
	2,4-Dimethylphenol	105679	µg l ⁻¹	N	<0.05
	bis(2-Chloroethoxy)methane	111911	µg l ⁻¹	N	<0.05
	2,4-Dichlorophenol	120832	µg l ⁻¹	N	<0.05
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	N	<0.05
	Naphthalene	91203	µg l ⁻¹	N	<0.05
	4-Chloroaniline	106478	µg l ⁻¹	N	<0.05
	Hexachlorobutadiene	87683	µg l ⁻¹	N	<0.05
	4-Chloro-3-methylphenol	59507	µg l ⁻¹	N	<0.05

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 4 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98221	AD98222	AD98223	AD98224	AD98225	AD98226	AD98227	AD98228
					TP3	TP1	TP4	BH5	WS2	WS9	BH19	TP12
					0.5	0.4	0.4	2.1	0.7	0.3	0.5	1.6
					LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
1790	2-Methylnaphthalene	91576	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorocyclopentadiene	77474	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2,4,6-Trichlorophenol	88062	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2,4,5-Trichlorophenol	95954	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2-Chloronaphthalene	91587	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2-Nitroaniline	88744	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Dimethylphthalate	131113	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2,6-Dinitrotoluene	606202	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Acenaphthylene	208968	µg l ⁻¹	N	0.52	<0.05	<0.05	<0.05	<0.05	<0.05	0.37	<0.05
	3-Nitroaniline	99092	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Acenaphthene	83329	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.44	<0.05
	Dibenzofuran	132649	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2,4-Dinitrotoluene	121142	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Diethylphthalate	84662	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Fluorene	86737	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.40	<0.05
	4-Chlorophenylether	7005723	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	4-Nitroaniline	100016	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	2-Methyl-4,6-dinitrophenol	534521	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Azobenzene	103333	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	4-Bromophenylphenylether	101553	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene	118741	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Pentachlorophenol	87865	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Phenanthrene	85018	µg l ⁻¹	N	0.10	<0.05	0.50	<0.05	<0.05	<0.05	21	<0.05
	Anthracene	120127	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.9	<0.05
	Carbazole	86748	µg l ⁻¹	N	<0.05	<0.05	2.3	<0.05	<0.05	<0.05	42	<0.05
	Di-n-butylphthalate	84742	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Fluoranthene	206440	µg l ⁻¹	N	4.6	<0.05	0.24	<0.05	<0.05	<0.05	23	<0.05
	Pyrene	129000	µg l ⁻¹	N	5.4	<0.05	0.12	<0.05	<0.05	<0.05	18	<0.05
	Butylbenzylphthalate	85687	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Benzo[a]anthracene	56553	µg l ⁻¹	N	6.0	<0.05	<0.05	<0.05	<0.05	<0.05	6.8	<0.05
	Chrysene	218019	µg l ⁻¹	N	7.1	<0.05	<0.05	<0.05	<0.05	<0.05	5.2	<0.05

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 5 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
 received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

94530
AD98229
TP13
0.3
LEACHATE

1790	2-Methylnaphthalene	91576	µg l ⁻¹	N	<0.05
	Hexachlorocyclopentadiene	77474	µg l ⁻¹	N	<0.05
	2,4,6-Trichlorophenol	88062	µg l ⁻¹	N	<0.05
	2,4,5-Trichlorophenol	95954	µg l ⁻¹	N	<0.05
	2-Chloronaphthalene	91587	µg l ⁻¹	N	<0.05
	2-Nitroaniline	88744	µg l ⁻¹	N	<0.05
	Dimethylphthalate	131113	µg l ⁻¹	N	<0.05
	2,6-Dinitrotoluene	606202	µg l ⁻¹	N	<0.05
	Acenaphthylene	208968	µg l ⁻¹	N	<0.05
	3-Nitroaniline	99092	µg l ⁻¹	N	<0.05
	Acenaphthene	83329	µg l ⁻¹	N	<0.05
	Dibenzofuran	132649	µg l ⁻¹	N	<0.05
	2,4-Dinitrotoluene	121142	µg l ⁻¹	N	<0.05
	Diethylphthalate	84662	µg l ⁻¹	N	<0.05
	Fluorene	86737	µg l ⁻¹	N	<0.05
	4-Chlorophenylether	7005723	µg l ⁻¹	N	<0.05
	4-Nitroaniline	100016	µg l ⁻¹	N	<0.05
	2-Methyl-4,6-dinitrophenol	534521	µg l ⁻¹	N	<0.05
	Azobenzene	103333	µg l ⁻¹	N	<0.05
	4-Bromophenylphenylether	101553	µg l ⁻¹	N	<0.05
	Hexachlorobenzene	118741	µg l ⁻¹	N	<0.05
	Pentachlorophenol	87865	µg l ⁻¹	N	<0.05
	Phenanthrene	85018	µg l ⁻¹	N	<0.05
	Anthracene	120127	µg l ⁻¹	N	<0.05
	Carbazole	86748	µg l ⁻¹	N	<0.05
	Di-n-butylphthalate	84742	µg l ⁻¹	N	<0.05
	Fluoranthene	206440	µg l ⁻¹	N	<0.05
	Pyrene	129000	µg l ⁻¹	N	<0.05
	Butylbenzylphthalate	85687	µg l ⁻¹	N	<0.05
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.05
	Chrysene	218019	µg l ⁻¹	N	<0.05

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 5 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
 received 22 April 2009

Report Date
 30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98221	AD98222	AD98223	AD98224	AD98225	AD98226	AD98227	AD98228
					TP3	TP1	TP4	BH5	WS2	WS9	BH19	TP12
					0.5	0.4	0.4	2.1	0.7	0.3	0.5	1.6
					LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
1790	bis(2-Ethylhexyl)phthalate	117817	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Di-n-octylphthalate	117840	µg l ⁻¹	N	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	6.2	<0.05	<0.05	<0.05	<0.05	<0.05	6.0	<0.05
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	1.6	<0.05
	Benzo[a]pyrene	50328	µg l ⁻¹	N	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	4.1	<0.05
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	1.3	<0.05	<0.05	<0.05	<0.05	<0.05	1.8	<0.05
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	0.42	<0.05
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	1.3	<0.05	<0.05	<0.05	<0.05	<0.05	1.7	<0.05
1792	9,10-anthracenedione		mg l ⁻¹								0.015	
	9H-fluoren-9-one		mg l ⁻¹				0.003					
	diphenyl sulfone		mg l ⁻¹		0.07							
	Tentatively Identified Compounds		mg l ⁻¹			Not detected		Not detected	Not detected	Not detected		Not detected
	9,10-anthracenedione		mg l ⁻¹				0.006					

LABORATORY TEST REPORT

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 received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

94530
AD98229
TP13
0.3
LEACHATE

1790	bis(2-Ethylhexyl)phthalate	117817	µg l ⁻¹	N	<0.05
	Di-n-octylphthalate	117840	µg l ⁻¹	N	<0.05
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.05
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.05
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.05
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.05
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.05
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.05
1792	9,10-anthracenedione		mg l ⁻¹		
	9H-fluoren-9-one		mg l ⁻¹		
	diphenyl sulfone		mg l ⁻¹		
	Tentatively Identified Compounds		mg l ⁻¹		Not detected
	9,10-anthracenedione		mg l ⁻¹		

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

Login Batch No					94530							
Chemtest LIMS ID					AD98191	AD98192	AD98193	AD98194	AD98195	AD98196	AD98197	AD98198
Sample ID					TP3	TP3	TP1	TP1	TP4	TP4	TP5	TP2
Sample No												
Depth					0.5	1.4	0.4	1.8	0.4	1.3	0.6	2
Matrix					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓	Determinand↓	CAS No↓	Units↓	*								
2450	Arsenic	7440382	mg kg ⁻¹	M	200	16	4500	90	7800	520	220	39
	Cadmium	7440439	mg kg ⁻¹	M	<0.1	<0.1	1.0	0.13	<0.1	<0.1	0.75	0.13
	Chromium	7440473	mg kg ⁻¹	M	16	26	25	45	17	<5	25	53
	Copper	7440508	mg kg ⁻¹	M	12	19	180	30	12	7.7	190	34
	Mercury	7439976	mg kg ⁻¹	M	0.29	<0.1	3.8	0.15	0.36	1.5	1.0	0.22
	Nickel	7440020	mg kg ⁻¹	M	110	38	56	56	22	<5	61	63
	Lead	7439921	mg kg ⁻¹	M	24	7.4	1100	27	360	9.6	140	19
	Selenium	7782492	mg kg ⁻¹	M	3.8	<0.2	7.9	<0.2	42	13	2.6	<0.2
	Zinc	7440666	mg kg ⁻¹	M	46	55	220	83	31	31	170	83
2625	Fraction of Organic Carbon			M	0.012	0.0040	0.12	0.0068	0.0072	0.0039	0.18	0.0055
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
	TPH aliphatic >C6-C8		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
	TPH aliphatic >C8-C10		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
	TPH aliphatic >C10-C12		mg kg ⁻¹	N	< 0.1	< 0.1	21	< 0.1	< 0.1	< 0.1		
	TPH aliphatic >C12-C16		mg kg ⁻¹	N	< 0.1	< 0.1	380	< 0.1	< 0.1	< 0.1		
	TPH aliphatic >C16-C21		mg kg ⁻¹	N	< 0.1	< 0.1	1100	< 0.1	< 0.1	< 0.1		
	TPH aliphatic >C21-C35		mg kg ⁻¹	N	< 0.1	< 0.1	1400	< 0.1	< 0.1	< 0.1		
	TPH aromatic >C5-C7		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
	TPH aromatic >C7-C8		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
	TPH aromatic >C8-C10		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
	TPH aromatic >C10-C12		mg kg ⁻¹	N	< 0.1	< 0.1	2.8	< 0.1	15	< 0.1		
	TPH aromatic >C12-C16		mg kg ⁻¹	N	< 0.1	< 0.1	17	< 0.1	9.0	< 0.1		
	TPH aromatic >C16-C21		mg kg ⁻¹	N	< 0.1	< 0.1	19	< 0.1	5.8	< 0.1		
	TPH aromatic >C21-C35		mg kg ⁻¹	N	< 0.1	< 0.1	26	< 0.1	16	< 0.1		
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N	< 10	< 10	2900	< 10	46	< 10		
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	Chloromethane	74873	µg kg ⁻¹	M	<1	<1	<1	<1	<1	<1		
	Vinyl chloride	75014	µg kg ⁻¹	M	<1	<1	<1	<1	<1	<1		
	Bromomethane	74839	µg kg ⁻¹	U	<20	<20	<20	<20	<20	<20		
	Chloroethane	75003	µg kg ⁻¹	U	<2	<2	<2	<2	<2	<2		

LABORATORY TEST REPORT

Report Date
30 April 2009

Results of analysis of 39 samples
received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

Login Batch No				94530								
Chemtest LIMS ID				AD98199	AD98200	AD98201	AD98202	AD98203	AD98204	AD98205	AD98206	
Sample ID				TP6	TP6	BH5	WS4	TP8	WS7	WS6	WS2	
Sample No												
Depth				0.6	3.3	2.1	0.05	0.5	0.4	0.8	0.7	
Matrix				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SOP↓	Determinand↓	CAS No↓	Units↓									
2450	Arsenic	7440382	mg kg ⁻¹	M	21	620	480	200	180	26	750	310
	Cadmium	7440439	mg kg ⁻¹	M	0.14	1.2	7.5	0.15	0.52	0.40	<0.1	0.19
	Chromium	7440473	mg kg ⁻¹	M	15	42	40	55	19	<5	24	39
	Copper	7440508	mg kg ⁻¹	M	17	130	200	100	43	8.1	29	34
	Mercury	7439976	mg kg ⁻¹	M	0.21	15	22	0.57	4.7	0.34	3.3	1.2
	Nickel	7440020	mg kg ⁻¹	M	18	61	66	42	20	5.4	23	42
	Lead	7439921	mg kg ⁻¹	M	21	730	600	58	140	81	240	67
	Selenium	7782492	mg kg ⁻¹	M	<0.2	9.0	4.8	0.37	1.8	<0.2	8.5	1.3
	Zinc	7440666	mg kg ⁻¹	M	90	170	240	130	59	24	53	69
2625	Fraction of Organic Carbon			M	0.0031	0.11	0.11	0.0067	0.019	0.0038	0.034	0.010
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aliphatic >C6-C8		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aliphatic >C8-C10		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aliphatic >C10-C12		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aliphatic >C12-C16		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aliphatic >C16-C21		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aliphatic >C21-C35		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aromatic >C5-C7		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aromatic >C7-C8		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aromatic >C8-C10		mg kg ⁻¹	N			< 0.1					< 0.1
	TPH aromatic >C10-C12		mg kg ⁻¹	N			16					< 0.1
	TPH aromatic >C12-C16		mg kg ⁻¹	N			56					1.7
	TPH aromatic >C16-C21		mg kg ⁻¹	N			96					1.8
	TPH aromatic >C21-C35		mg kg ⁻¹	N			300					9.0
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N			470					13
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U			<1					<1
	Chloromethane	74873	µg kg ⁻¹	M			<1					<1
	Vinyl chloride	75014	µg kg ⁻¹	M			<1					<1
	Bromomethane	74839	µg kg ⁻¹	U			<20					<20
	Chloroethane	75003	µg kg ⁻¹	U			<2					<2

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

Login Batch No				94530								
Chemtest LIMS ID				AD98207	AD98208	AD98209	AD98210	AD98211	AD98212	AD98213	AD98214	
Sample ID				WS3	WS3	WS5	TP7	TP7	WS9	BH19	TP10	
Sample No												
Depth				0.4	2.1	0.5	0.2	0.5	0.3	0.5	0.7	
Matrix				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SOP↓	Determinand↓	CAS No↓	Units↓									
2450	Arsenic	7440382	mg kg ⁻¹	M	260	18	160	22	20	870	260	76
	Cadmium	7440439	mg kg ⁻¹	M	0.30	<0.1	0.62	0.33	0.11	1.1	0.83	0.21
	Chromium	7440473	mg kg ⁻¹	M	28	31	25	6.6	44	13	30	36
	Copper	7440508	mg kg ⁻¹	M	52	23	190	6.4	340	32	200	42
	Mercury	7439976	mg kg ⁻¹	M	0.82	0.13	1.1	0.24	0.11	9.8	9.8	1.3
	Nickel	7440020	mg kg ⁻¹	M	33	36	31	13	37	39	17	31
	Lead	7439921	mg kg ⁻¹	M	73	5.9	130	11	21	850	2600	98
	Selenium	7782492	mg kg ⁻¹	M	3.1	<0.2	0.88	<0.2	<0.2	12	5.6	0.84
	Zinc	7440666	mg kg ⁻¹	M	96	54	180	13	81	240	140	79
2625	Fraction of Organic Carbon			M	0.0062	0.0027	0.0077	0.0039	0.0025	0.038	0.30	0.0094
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aliphatic >C6-C8		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aliphatic >C8-C10		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aliphatic >C10-C12		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aliphatic >C12-C16		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aliphatic >C16-C21		mg kg ⁻¹	N						< 0.1	7600	
	TPH aliphatic >C21-C35		mg kg ⁻¹	N						< 0.1	14000	
	TPH aromatic >C5-C7		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aromatic >C7-C8		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aromatic >C8-C10		mg kg ⁻¹	N						< 0.1	< 0.1	
	TPH aromatic >C10-C12		mg kg ⁻¹	N						3.1	310	
	TPH aromatic >C12-C16		mg kg ⁻¹	N						17	1300	
	TPH aromatic >C16-C21		mg kg ⁻¹	N						50	3400	
	TPH aromatic >C21-C35		mg kg ⁻¹	N						130	6500	
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N						200	34000	
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U						<1	<1	
	Chloromethane	74873	µg kg ⁻¹	M						<1	<1	
	Vinyl chloride	75014	µg kg ⁻¹	M						<1	<1	
	Bromomethane	74839	µg kg ⁻¹	U						<20	<20	
	Chloroethane	75003	µg kg ⁻¹	U						<2	<2	

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

Login Batch No				94530						
Chemtest LIMS ID				AD98215	AD98216	AD98217	AD98218	AD98219	AD98220	
Sample ID				TP11	TP11	TP12	TP12	TP13	TP13	
Sample No										
Depth				0.5	1.2	1.6	4.3	0.3	3.2	
Matrix				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SOP↓	Determinand↓	CAS No↓	Units↓							
2450	Arsenic	7440382	mg kg ⁻¹	M	45	5.3	37	9.1	25	6.4
	Cadmium	7440439	mg kg ⁻¹	M	0.45	<0.1	1.4	0.10	0.57	0.18
	Chromium	7440473	mg kg ⁻¹	M	6.3	23	20	30	<5	29
	Copper	7440508	mg kg ⁻¹	M	10	18	35	24	9.4	25
	Mercury	7439976	mg kg ⁻¹	M	0.57	<0.1	0.81	<0.1	<0.1	<0.1
	Nickel	7440020	mg kg ⁻¹	M	7.2	26	39	34	10	31
	Lead	7439921	mg kg ⁻¹	M	59	8.7	58	10	39	10
	Selenium	7782492	mg kg ⁻¹	M	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Zinc	7440666	mg kg ⁻¹	M	30	56	76	70	35	83
2625	Fraction of Organic Carbon			M	0.010	0.0023	0.043	< 0.0020	0.0024	< 0.0020
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C8-C10		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C12-C16		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C16-C21		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C21-C35		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C5-C7		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg ⁻¹	N			< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C12-C16		mg kg ⁻¹	N			2.6	< 0.1	< 0.1	< 0.1
	TPH aromatic >C16-C21		mg kg ⁻¹	N			5.5	< 0.1	< 0.1	< 0.1
	TPH aromatic >C21-C35		mg kg ⁻¹	N			16	< 0.1	< 0.1	< 0.1
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N			23	< 10	< 10	< 10
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U			<1	<1	<1	<1
	Chloromethane	74873	µg kg ⁻¹	M			<1	<1	<1	<1
	Vinyl chloride	75014	µg kg ⁻¹	M			<1	<1	<1	<1
	Bromomethane	74839	µg kg ⁻¹	U			<20	<20	<20	<20
	Chloroethane	75003	µg kg ⁻¹	U			<2	<2	<2	<2

LABORATORY TEST REPORT

Report Date
30 April 2009

Results of analysis of 39 samples
received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98191	AD98192	AD98193	AD98194	AD98195	AD98196	AD98197	AD98198
					TP3	TP3	TP1	TP1	TP4	TP4	TP5	TP2
					0.5	1.4	0.4	1.8	0.4	1.3	0.6	2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,1-Dichloroethene	75354	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	Dichloromethane	75092	µg kg ⁻¹	U	ne	ne	ne	ne	ne	ne		
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M	<1	<1	<1	<1	<1	<1		
	1,1-Dichloroethane	75343	µg kg ⁻¹	M	<1	<1	<1	<1	<1	<1		
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M	<1	<1	<1	<1	<1	<1		
	Bromochloromethane	74975	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	Trichloromethane	67663	µg kg ⁻¹	M	<1	<1	23	<1	240	4.5		
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M	<1	<1	<1	<1	<1	<1		
	Tetrachloromethane	56235	µg kg ⁻¹	M	<1	<1	<1	<1	49	<1		
	1,1-Dichloropropene	563586	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	Benzene	71432	µg kg ⁻¹	M	<1	<1	1.5	<1	<1	<1		
	1,2-Dichloroethane	107062	µg kg ⁻¹	M	<2	<2	<2	<2	<2	<2		
	Trichloroethene	79016	µg kg ⁻¹	N	<1	<1	<1	<1	3.7	<1		
	1,2-Dichloropropane	78875	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	Dibromomethane	74953	µg kg ⁻¹	U	<10	<10	<10	<10	<10	<10		
	Bromodichloromethane	75274	µg kg ⁻¹	U	<5	<5	<5	<5	12	<5		
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U	<10	<10	<10	<10	<10	<10		
	Toluene	108883	µg kg ⁻¹	M	<1	<1	<1	<1	6.4	<1		
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U	<10	<10	<10	<10	<10	<10		
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M	<10	<10	<10	<10	<10	<10		
	Tetrachloroethene	127184	µg kg ⁻¹	M	<1	<1	<1	<1	18	<1		
	1,3-Dichloropropane	142289	µg kg ⁻¹	U	<2	<2	<2	<2	<2	<2		
	Dibromochloromethane	124481	µg kg ⁻¹	U	<10	<10	<10	<10	<10	<10		
	1,2-Dibromoethane	106934	µg kg ⁻¹	U	<5	<5	<5	<5	<5	<5		
	Chlorobenzene	108907	µg kg ⁻¹	M	<1	<1	<1	<1	24	2.5		
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M	<2	<2	<2	<2	<2	<2		
	Ethylbenzene	100414	µg kg ⁻¹	M	<1	<1	<1	<1	2.4	<1		
	m- & p-Xylene	1330207	µg kg ⁻¹	M	<1	<1	<1	<1	25	<1		
	o-Xylene	95476	µg kg ⁻¹	M	<1	<1	<1	<1	11	<1		
	Styrene	100425	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 8 of 12

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Report Date
30 April 2009

Results of analysis of 39 samples
received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98199	AD98200	AD98201	AD98202	AD98203	AD98204	AD98205	AD98206
					TP6	TP6	BH5	WS4	TP8	WS7	WS6	WS2
					0.6	3.3	2.1	0.05	0.5	0.4	0.8	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U			<1					<1
	1,1-Dichloroethene	75354	µg kg ⁻¹	U			<1					<1
	Dichloromethane	75092	µg kg ⁻¹	U			ne					ne
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M			<1					<1
	1,1-Dichloroethane	75343	µg kg ⁻¹	M			<1					<1
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M			<1					<1
	Bromochloromethane	74975	µg kg ⁻¹	U			<1					<1
	Trichloromethane	67663	µg kg ⁻¹	M			<1					<1
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M			<1					<1
	Tetrachloromethane	56235	µg kg ⁻¹	M			<1					<1
	1,1-Dichloropropene	563586	µg kg ⁻¹	U			<1					<1
	Benzene	71432	µg kg ⁻¹	M			2.4					<1
	1,2-Dichloroethane	107062	µg kg ⁻¹	M			<2					<2
	Trichloroethene	79016	µg kg ⁻¹	N			<1					<1
	1,2-Dichloropropane	78875	µg kg ⁻¹	U			<1					<1
	Dibromomethane	74953	µg kg ⁻¹	U			<10					<10
	Bromodichloromethane	75274	µg kg ⁻¹	U			<5					<5
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U			<10					<10
	Toluene	108883	µg kg ⁻¹	M			5.4					<1
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U			<10					<10
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M			<10					<10
	Tetrachloroethene	127184	µg kg ⁻¹	M			<1					<1
	1,3-Dichloropropane	142289	µg kg ⁻¹	U			<2					<2
	Dibromochloromethane	124481	µg kg ⁻¹	U			<10					<10
	1,2-Dibromoethane	106934	µg kg ⁻¹	U			<5					<5
	Chlorobenzene	108907	µg kg ⁻¹	M			<1					<1
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M			<2					<2
	Ethylbenzene	100414	µg kg ⁻¹	M			1.6					<1
	m- & p-Xylene	1330207	µg kg ⁻¹	M			2.4					<1
	o-Xylene	95476	µg kg ⁻¹	M			1.8					<1
	Styrene	100425	µg kg ⁻¹	U			<1					<1

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

Column page 2

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This report should be interpreted in conjunction with the notes on the accompanying cover page

Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98207	AD98208	AD98209	AD98210	AD98211	AD98212	AD98213	AD98214
					WS3	WS3	WS5	TP7	TP7	WS9	BH19	TP10
					0.4	2.1	0.5	0.2	0.5	0.3	0.5	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U						<1	<1	
	1,1-Dichloroethene	75354	µg kg ⁻¹	U						<1	<1	
	Dichloromethane	75092	µg kg ⁻¹	U						ne	ne	
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M						<1	<1	
	1,1-Dichloroethane	75343	µg kg ⁻¹	M						<1	<1	
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M						<1	<1	
	Bromochloromethane	74975	µg kg ⁻¹	U						<1	<1	
	Trichloromethane	67663	µg kg ⁻¹	M						<1	3.7	
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M						<1	<1	
	Tetrachloromethane	56235	µg kg ⁻¹	M						<1	<1	
	1,1-Dichloropropene	563586	µg kg ⁻¹	U						<1	<1	
	Benzene	71432	µg kg ⁻¹	M						<1	110	
	1,2-Dichloroethane	107062	µg kg ⁻¹	M						<2	<2	
	Trichloroethene	79016	µg kg ⁻¹	N						<1	<1	
	1,2-Dichloropropane	78875	µg kg ⁻¹	U						<1	<1	
	Dibromomethane	74953	µg kg ⁻¹	U						<10	<10	
	Bromodichloromethane	75274	µg kg ⁻¹	U						<5	<5	
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U						<10	<10	
	Toluene	108883	µg kg ⁻¹	M						<1	52	
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U						<10	<10	
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M						<10	<10	
	Tetrachloroethene	127184	µg kg ⁻¹	M						<1	<1	
	1,3-Dichloropropane	142289	µg kg ⁻¹	U						<2	<2	
	Dibromochloromethane	124481	µg kg ⁻¹	U						<10	<10	
	1,2-Dibromoethane	106934	µg kg ⁻¹	U						<5	<5	
	Chlorobenzene	108907	µg kg ⁻¹	M						<1	<1	
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M						<2	<2	
	Ethylbenzene	100414	µg kg ⁻¹	M						<1	8.1	
	m- & p-Xylene	1330207	µg kg ⁻¹	M						<1	54	
	o-Xylene	95476	µg kg ⁻¹	M						<1	34	
	Styrene	100425	µg kg ⁻¹	U						<1	<1	

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

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This report should be interpreted in conjunction with the notes on the accompanying cover page

Report sample ID range AD98191 to AD98229

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530					
					AD98215	AD98216	AD98217	AD98218	AD98219	AD98220
					TP11	TP11	TP12	TP12	TP13	TP13
					0.5	1.2	1.6	4.3	0.3	3.2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U			<1	<1	<1	<1
	1,1-Dichloroethene	75354	µg kg ⁻¹	U			<1	<1	<1	<1
	Dichloromethane	75092	µg kg ⁻¹	U			ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M			<1	<1	<1	<1
	1,1-Dichloroethane	75343	µg kg ⁻¹	M			<1	<1	<1	<1
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M			<1	<1	<1	<1
	Bromochloromethane	74975	µg kg ⁻¹	U			<1	<1	<1	<1
	Trichloromethane	67663	µg kg ⁻¹	M			<1	<1	<1	<1
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M			<1	<1	<1	<1
	Tetrachloromethane	56235	µg kg ⁻¹	M			<1	<1	<1	<1
	1,1-Dichloropropene	563586	µg kg ⁻¹	U			<1	<1	<1	<1
	Benzene	71432	µg kg ⁻¹	M			<1	<1	<1	<1
	1,2-Dichloroethane	107062	µg kg ⁻¹	M			<2	<2	<2	<2
	Trichloroethene	79016	µg kg ⁻¹	N			<1	<1	<1	<1
	1,2-Dichloropropane	78875	µg kg ⁻¹	U			<1	<1	<1	<1
	Dibromomethane	74953	µg kg ⁻¹	U			<10	<10	<10	<10
	Bromodichloromethane	75274	µg kg ⁻¹	U			<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U			<10	<10	<10	<10
	Toluene	108883	µg kg ⁻¹	M			<1	<1	<1	<1
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U			<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M			<10	<10	<10	<10
	Tetrachloroethene	127184	µg kg ⁻¹	M			<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg kg ⁻¹	U			<2	<2	<2	<2
	Dibromochloromethane	124481	µg kg ⁻¹	U			<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg kg ⁻¹	U			<5	<5	<5	<5
	Chlorobenzene	108907	µg kg ⁻¹	M			<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M			<2	<2	<2	<2
	Ethylbenzene	100414	µg kg ⁻¹	M			<1	<1	<1	<1
	m- & p-Xylene	1330207	µg kg ⁻¹	M			<1	<1	<1	<1
	o-Xylene	95476	µg kg ⁻¹	M			<1	<1	<1	<1
	Styrene	100425	µg kg ⁻¹	U			<1	<1	<1	<1

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98191	AD98192	AD98193	AD98194	AD98195	AD98196	AD98197	AD98198
					TP3	TP3	TP1	TP1	TP4	TP4	TP5	TP2
					0.5	1.4	0.4	1.8	0.4	1.3	0.6	2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Tribromomethane	75252	µg kg ⁻¹	U	<10	<10	<10	<10	<10	<10		
	Isopropylbenzene	98828	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	Bromobenzene	108861	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M	<10	<10	<10	<10	<10	<10		
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U	<50	<50	<50	<50	<50	<50		
	n-Propylbenzene	103651	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	2-Chlorotoluene	95498	µg kg ⁻¹	U	<1	<1	<1	<1	54	7.9		
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	4-Chlorotoluene	106434	µg kg ⁻¹	U	<1	<1	<1	<1	33	2.1		
	tert-Butylbenzene	98066	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U	<1	<1	<1	<1	22	1.8		
	sec-Butylbenzene	135988	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	4-Isopropyltoluene	99876	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	n-Butylbenzene	104518	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U	<1	<1	<1	<1	54	10		
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U	<50	<50	<50	<50	<50	<50		
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U	<1	<1	<1	<1	25	4.2		
	Hexachlorobutadiene	87683	µg kg ⁻¹	U	<1	<1	<1	<1	<1	<1		
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U	<2	<2	<2	<2	<2	<2		
2762	Tentatively Identified Compounds		µg kg ⁻¹		Not Detected	Not Detected	Not Detected	Not Detected	Detected	Not Detected		
	1H-Indene,1-chloro-2,3-dihydro-		µg kg ⁻¹									
	Alpha-Pinene		µg kg ⁻¹									
	Bifhenyl		µg kg ⁻¹									
	Ethane,hexachloro-		µg kg ⁻¹						17			
	Benzene,1.2-dichloro-3-methyl		µg kg ⁻¹						7.0			
	Indane		µg kg ⁻¹									
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Phenol	108952	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98199	AD98200	AD98201	AD98202	AD98203	AD98204	AD98205	AD98206
					TP6	TP6	BH5	WS4	TP8	WS7	WS6	WS2
					0.6	3.3	2.1	0.05	0.5	0.4	0.8	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Tribromomethane	75252	µg kg ⁻¹	U			<10					<10
	Isopropylbenzene	98828	µg kg ⁻¹	U			<1					<1
	Bromobenzene	108861	µg kg ⁻¹	U			<1					<1
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M			<10					<10
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U			<50					<50
	n-Propylbenzene	103651	µg kg ⁻¹	U			<1					<1
	2-Chlorotoluene	95498	µg kg ⁻¹	U			<1					<1
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U			3.5					<1
	4-Chlorotoluene	106434	µg kg ⁻¹	U			<1					<1
	tert-Butylbenzene	98066	µg kg ⁻¹	U			<1					<1
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U			6.9					<1
	sec-Butylbenzene	135988	µg kg ⁻¹	U			<1					<1
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U			<1					<1
	4-Isopropyltoluene	99876	µg kg ⁻¹	U			2.9					<1
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U			<1					<1
	n-Butylbenzene	104518	µg kg ⁻¹	U			<1					<1
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U			<1					<1
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U			<50					<50
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U			<1					<1
	Hexachlorobutadiene	87683	µg kg ⁻¹	U			<1					<1
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U			<2					<2
2762	Tentatively Identified Compounds		µg kg ⁻¹				Detected					Not Detected
	1H-Indene,1-chloro-2,3-dihydro-		µg kg ⁻¹									
	Alpha-Pinene		µg kg ⁻¹				76					
	Bifhenyl		µg kg ⁻¹									
	Ethane,hexachloro-		µg kg ⁻¹									
	Benzene,1.2-dichloro-3-methyl		µg kg ⁻¹									
	Indane		µg kg ⁻¹				9.7					
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N			<0.5					<0.5
	Phenol	108952	mg kg ⁻¹	N			<0.5					<0.5
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N			<0.5					<0.5

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

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LABORATORY TEST REPORT

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98207	AD98208	AD98209	AD98210	AD98211	AD98212	AD98213	AD98214
					WS3	WS3	WS5	TP7	TP7	WS9	BH19	TP10
					0.4	2.1	0.5	0.2	0.5	0.3	0.5	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Tribromomethane	75252	µg kg ⁻¹	U						<10	<10	
	Isopropylbenzene	98828	µg kg ⁻¹	U						<1	<1	
	Bromobenzene	108861	µg kg ⁻¹	U						<1	<1	
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M						<10	<10	
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U						<50	<50	
	n-Propylbenzene	103651	µg kg ⁻¹	U						<1	<1	
	2-Chlorotoluene	95498	µg kg ⁻¹	U						<1	<1	
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U						<1	38	
	4-Chlorotoluene	106434	µg kg ⁻¹	U						<1	<1	
	tert-Butylbenzene	98066	µg kg ⁻¹	U						<1	<1	
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U						<1	51	
	sec-Butylbenzene	135988	µg kg ⁻¹	U						<1	<1	
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U						<1	2.1	
	4-Isopropyltoluene	99876	µg kg ⁻¹	U						<1	<1	
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U						<1	<1	
	n-Butylbenzene	104518	µg kg ⁻¹	U						<1	<1	
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U						<1	<1	
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U						<50	<50	
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U						<1	<1	
	Hexachlorobutadiene	87683	µg kg ⁻¹	U						<1	<1	
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U						<2	<2	
2762	Tentatively Identified Compounds		µg kg ⁻¹							Not Detected	Detected	
	1H-Indene,1-chloro-2,3-dihydro-		µg kg ⁻¹								35	
	Alpha-Pinene		µg kg ⁻¹									
	Bifhenyl		µg kg ⁻¹									
	Ethane,hexachloro-		µg kg ⁻¹									
	Benzene,1.2-dichloro-3-methyl		µg kg ⁻¹									
	Indane		µg kg ⁻¹									
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N						<0.5	<0.5	
	Phenol	108952	mg kg ⁻¹	N						<0.5	5.8	
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N						<0.5	<0.5	

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

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LE10104 - Lostock Works, Cheshire

					94530					
					AD98215	AD98216	AD98217	AD98218	AD98219	AD98220
					TP11	TP11	TP12	TP12	TP13	TP13
					0.5	1.2	1.6	4.3	0.3	3.2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2760	Tribromomethane	75252	µg kg ⁻¹	U			<10	<10	<10	<10
	Isopropylbenzene	98828	µg kg ⁻¹	U			<1	<1	<1	<1
	Bromobenzene	108861	µg kg ⁻¹	U			<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M			<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U			<50	<50	<50	<50
	n-Propylbenzene	103651	µg kg ⁻¹	U			<1	<1	<1	<1
	2-Chlorotoluene	95498	µg kg ⁻¹	U			<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U			<1	<1	<1	<1
	4-Chlorotoluene	106434	µg kg ⁻¹	U			<1	<1	<1	<1
	tert-Butylbenzene	98066	µg kg ⁻¹	U			<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U			<1	<1	<1	<1
	sec-Butylbenzene	135988	µg kg ⁻¹	U			<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U			<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg kg ⁻¹	U			<1	<1	<1	<1
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U			<1	<1	<1	<1
	n-Butylbenzene	104518	µg kg ⁻¹	U			<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U			<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U			<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U			<1	<1	<1	<1
	Hexachlorobutadiene	87683	µg kg ⁻¹	U			<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U			<2	<2	<2	<2
2762	Tentatively Identified Compounds		µg kg ⁻¹				Detected	Not Detected	Not Detected	Not Detected
	1H-Indene,1-chloro-2,3-dihydro-		µg kg ⁻¹							
	Alpha-Pinene		µg kg ⁻¹							
	Biphenyl		µg kg ⁻¹				20			
	Ethane,hexachloro-		µg kg ⁻¹							
	Benzene,1.2-dichloro-3-methyl		µg kg ⁻¹							
	Indane		µg kg ⁻¹							
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Phenol	108952	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98191	AD98192	AD98193	AD98194	AD98195	AD98196	AD98197	AD98198
					TP3	TP3	TP1	TP1	TP4	TP4	TP5	TP2
					0.5	1.4	0.4	1.8	0.4	1.3	0.6	2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	2-Chlorophenol	95578	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	0.67	<0.5		
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-Methylphenol	95487	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-Methylphenol	106445	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Hexachloroethane	67721	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	0.69	<0.5		
	Nitrobenzene	98953	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Isophorone	78591	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-Nitrophenol	88755	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Naphthalene	91203	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	15	<0.5		
	4-Chloroaniline	106478	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Hexachlorobutadiene	87683	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-Methylnaphthalene	91576	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	2.0	<0.5		
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-Chloronaphthalene	91587	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	1.7	<0.5		
	2-Nitroaniline	88744	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Dimethylphthalate	131113	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Acenaphthylene	208968	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	3-Nitroaniline	99092	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Acenaphthene	83329	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

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Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

Report Date
30 April 2009

Results of analysis of 39 samples
received 22 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98199	AD98200	AD98201	AD98202	AD98203	AD98204	AD98205	AD98206
					TP6	TP6	BH5	WS4	TP8	WS7	WS6	WS2
					0.6	3.3	2.1	0.05	0.5	0.4	0.8	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	2-Chlorophenol	95578	mg kg ⁻¹	N			<0.5					<0.5
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N			<0.5					<0.5
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N			<0.5					<0.5
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N			<0.5					<0.5
	2-Methylphenol	95487	mg kg ⁻¹	N			<0.5					<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N			<0.5					<0.5
	4-Methylphenol	106445	mg kg ⁻¹	N			<0.5					<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N			<0.5					<0.5
	Hexachloroethane	67721	mg kg ⁻¹	N			<0.5					<0.5
	Nitrobenzene	98953	mg kg ⁻¹	N			<0.5					<0.5
	Isophorone	78591	mg kg ⁻¹	N			<0.5					<0.5
	2-Nitrophenol	88755	mg kg ⁻¹	N			<0.5					<0.5
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N			<0.5					<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N			<0.5					<0.5
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N			<0.5					<0.5
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N			<0.5					<0.5
	Naphthalene	91203	mg kg ⁻¹	N			3.8					<0.5
	4-Chloroaniline	106478	mg kg ⁻¹	N			<0.5					<0.5
	Hexachlorobutadiene	87683	mg kg ⁻¹	N			<0.5					<0.5
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N			<0.5					<0.5
	2-Methylnaphthalene	91576	mg kg ⁻¹	N			2.2					<0.5
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N			<0.5					<0.5
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N			<0.5					<0.5
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N			<0.5					<0.5
	2-Chloronaphthalene	91587	mg kg ⁻¹	N			<0.5					<0.5
	2-Nitroaniline	88744	mg kg ⁻¹	N			<0.5					<0.5
	Dimethylphthalate	131113	mg kg ⁻¹	N			<0.5					<0.5
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N			<0.5					<0.5
	Acenaphthylene	208968	mg kg ⁻¹	N			1.9					<0.5
	3-Nitroaniline	99092	mg kg ⁻¹	N			<0.5					<0.5
	Acenaphthene	83329	mg kg ⁻¹	N			5.0					<0.5

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

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LABORATORY TEST REPORT

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98207	AD98208	AD98209	AD98210	AD98211	AD98212	AD98213	AD98214
					WS3	WS3	WS5	TP7	TP7	WS9	BH19	TP10
					0.4	2.1	0.5	0.2	0.5	0.3	0.5	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	2-Chlorophenol	95578	mg kg ⁻¹	N						<0.5	<0.5	
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N						<0.5	<0.5	
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N						<0.5	<0.5	
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N						<0.5	<0.5	
	2-Methylphenol	95487	mg kg ⁻¹	N						<0.5	4.1	
	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N						<0.5	<0.5	
	4-Methylphenol	106445	mg kg ⁻¹	N						<0.5	7.1	
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N						<0.5	<0.5	
	Hexachloroethane	67721	mg kg ⁻¹	N						<0.5	<0.5	
	Nitrobenzene	98953	mg kg ⁻¹	N						<0.5	<0.5	
	Isophorone	78591	mg kg ⁻¹	N						<0.5	<0.5	
	2-Nitrophenol	88755	mg kg ⁻¹	N						<0.5	<0.5	
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N						<0.5	6.5	
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N						<0.5	<0.5	
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N						<0.5	<0.5	
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N						<0.5	<0.5	
	Naphthalene	91203	mg kg ⁻¹	N						<0.5	160	
	4-Chloroaniline	106478	mg kg ⁻¹	N						<0.5	<0.5	
	Hexachlorobutadiene	87683	mg kg ⁻¹	N						<0.5	<0.5	
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N						<0.5	<0.5	
	2-Methylnaphthalene	91576	mg kg ⁻¹	N						<0.5	84	
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N						<0.5	<0.5	
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N						<0.5	<0.5	
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N						<0.5	<0.5	
	2-Chloronaphthalene	91587	mg kg ⁻¹	N						<0.5	<0.5	
	2-Nitroaniline	88744	mg kg ⁻¹	N						<0.5	<0.5	
	Dimethylphthalate	131113	mg kg ⁻¹	N						<0.5	<0.5	
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N						<0.5	<0.5	
	Acenaphthylene	208968	mg kg ⁻¹	N						0.83	140	
	3-Nitroaniline	99092	mg kg ⁻¹	N						<0.5	<0.5	
	Acenaphthene	83329	mg kg ⁻¹	N						<0.5	54	

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LABORATORY TEST REPORT

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530					
					AD98215	AD98216	AD98217	AD98218	AD98219	AD98220
					TP11	TP11	TP12	TP12	TP13	TP13
					0.5	1.2	1.6	4.3	0.3	3.2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	2-Chlorophenol	95578	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2-Chloronaphthalene	91587	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg ⁻¹	N			1.6	0.57	<0.5	<0.5
	3-Nitroaniline	99092	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

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Report sample ID range AD98191 to AD98229

LABORATORY TEST REPORT

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30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98191	AD98192	AD98193	AD98194	AD98195	AD98196	AD98197	AD98198
					TP3	TP3	TP1	TP1	TP4	TP4	TP5	TP2
					0.5	1.4	0.4	1.8	0.4	1.3	0.6	2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	Dibenzofuran	132649	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	0.98	<0.5		
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Diethylphthalate	84662	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Fluorene	86737	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-Chlorophenylether	7005723	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-Nitroaniline	100016	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Azobenzene	103333	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Hexachlorobenzene	118741	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Pentachlorophenol	87865	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Phenanthrene	85018	mg kg ⁻¹	N	<0.5	<0.5	1.9	<0.5	0.88	<0.5		
	Anthracene	120127	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Carbazole	86748	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Di-n-butylphthalate	84742	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Fluoranthene	206440	mg kg ⁻¹	N	<0.5	<0.5	2.8	<0.5	<0.5	<0.5		
	Pyrene	129000	mg kg ⁻¹	N	<0.5	<0.5	2.2	<0.5	<0.5	<0.5		
	Butylbenzylphthalate	85687	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Benzo[a]anthracene	56553	mg kg ⁻¹	N	<0.5	<0.5	1.4	<0.5	<0.5	<0.5		
	Chrysene	218019	mg kg ⁻¹	N	<0.5	<0.5	1.2	<0.5	<0.5	<0.5		
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Di-n-octylphthalate	117840	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N	<0.5	<0.5	1.7	<0.5	<0.5	<0.5		
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.5	<0.5	0.62	<0.5	<0.5	<0.5		
	Benzo[a]pyrene	50328	mg kg ⁻¹	N	<0.5	<0.5	1.1	<0.5	<0.5	<0.5		
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N	<0.5	<0.5	0.51	<0.5	<0.5	<0.5		
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N	<0.5	<0.5	0.60	<0.5	<0.5	<0.5		
2792	3-carene		mg kg ⁻¹									
	Tentatively Identified Compounds		mg kg ⁻¹		Not detected	Not detected	Not detected	Not detected	Not detected	Not detected		
2800	Naphthalene	91203	mg kg ⁻¹	M	<0.1	<0.1	1.2	0.2	24	<0.1	2.9	<0.1

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* Accreditation status

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Report sample ID range AD98191 to AD98229

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98199	AD98200	AD98201	AD98202	AD98203	AD98204	AD98205	AD98206
					TP6	TP6	BH5	WS4	TP8	WS7	WS6	WS2
					0.6	3.3	2.1	0.05	0.5	0.4	0.8	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	Dibenzofuran	132649	mg kg ⁻¹	N			3.2					<0.5
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N			<0.5					<0.5
	Diethylphthalate	84662	mg kg ⁻¹	N			<0.5					<0.5
	Fluorene	86737	mg kg ⁻¹	N			2.9					<0.5
	4-Chlorophenylether	7005723	mg kg ⁻¹	N			<0.5					<0.5
	4-Nitroaniline	100016	mg kg ⁻¹	N			<0.5					<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N			<0.5					<0.5
	Azobenzene	103333	mg kg ⁻¹	N			<0.5					<0.5
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N			<0.5					<0.5
	Hexachlorobenzene	118741	mg kg ⁻¹	N			<0.5					<0.5
	Pentachlorophenol	87865	mg kg ⁻¹	N			<0.5					<0.5
	Phenanthrene	85018	mg kg ⁻¹	N			23					1.1
	Anthracene	120127	mg kg ⁻¹	N			3.9					<0.5
	Carbazole	86748	mg kg ⁻¹	N			0.92					<0.5
	Di-n-butylphthalate	84742	mg kg ⁻¹	N			<0.5					<0.5
	Fluoranthene	206440	mg kg ⁻¹	N			19					2.4
	Pyrene	129000	mg kg ⁻¹	N			16					2.1
	Butylbenzylphthalate	85687	mg kg ⁻¹	N			<0.5					<0.5
	Benzo[a]anthracene	56553	mg kg ⁻¹	N			5.9					1.0
	Chrysene	218019	mg kg ⁻¹	N			4.8					1.2
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N			<0.5					<0.5
	Di-n-octylphthalate	117840	mg kg ⁻¹	N			<0.5					<0.5
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N			5.6					1.6
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N			1.7					0.52
	Benzo[a]pyrene	50328	mg kg ⁻¹	N			3.7					0.97
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N			1.5					<0.5
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N			<0.5					<0.5
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N			1.7					<0.5
2792	3-carene		mg kg ⁻¹				5					
	Tentatively Identified Compounds		mg kg ⁻¹									Not detected
2800	Naphthalene	91203	mg kg ⁻¹	M	<0.1	1.1	31	0.1	0.1	0.1	2.6	<0.1

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

Report Date
30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98207	AD98208	AD98209	AD98210	AD98211	AD98212	AD98213	AD98214
					WS3	WS3	WS5	TP7	TP7	WS9	BH19	TP10
					0.4	2.1	0.5	0.2	0.5	0.3	0.5	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	Dibenzofuran	132649	mg kg ⁻¹	N						<0.5	140	
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N						<0.5	<0.5	
	Diethylphthalate	84662	mg kg ⁻¹	N						<0.5	<0.5	
	Fluorene	86737	mg kg ⁻¹	N						<0.5	200	
	4-Chlorophenylether	7005723	mg kg ⁻¹	N						<0.5	<0.5	
	4-Nitroaniline	100016	mg kg ⁻¹	N						<0.5	<0.5	
	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N						<0.5	<0.5	
	Azobenzene	103333	mg kg ⁻¹	N						<0.5	<0.5	
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N						<0.5	<0.5	
	Hexachlorobenzene	118741	mg kg ⁻¹	N						<0.5	<0.5	
	Pentachlorophenol	87865	mg kg ⁻¹	N						<0.5	<0.5	
	Phenanthrene	85018	mg kg ⁻¹	N						13	670	
	Anthracene	120127	mg kg ⁻¹	N						2.7	250	
	Carbazole	86748	mg kg ⁻¹	N						<0.5	110	
	Di-n-butylphthalate	84742	mg kg ⁻¹	N						<0.5	<0.5	
	Fluoranthene	206440	mg kg ⁻¹	N						17	730	
	Pyrene	129000	mg kg ⁻¹	N						13	590	
	Butylbenzylphthalate	85687	mg kg ⁻¹	N						<0.5	<0.5	
	Benzo[a]anthracene	56553	mg kg ⁻¹	N						5.3	430	
	Chrysene	218019	mg kg ⁻¹	N						5.1	480	
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N						<0.5	<0.5	
	Di-n-octylphthalate	117840	mg kg ⁻¹	N						<0.5	<0.5	
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N						5.6	480	
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N						1.8	170	
	Benzo[a]pyrene	50328	mg kg ⁻¹	N						4.0	440	
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N						1.7	230	
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N						<0.5	87	
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N						1.8	260	
2792	3-carene		mg kg ⁻¹									
	Tentatively Identified Compounds		mg kg ⁻¹							Not detected	Not detected	
2800	Naphthalene	91203	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.2	2.7	270	1.4

All tests undertaken between 22-Apr-2009 and 30-Apr-2009

Column page 3

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Report sample ID range AD98191 to AD98229

This report should be interpreted in conjunction with the notes on the accompanying cover page

LABORATORY TEST REPORT

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LE10104 - Lostock Works, Cheshire

					94530					
					AD98215	AD98216	AD98217	AD98218	AD98219	AD98220
					TP11	TP11	TP12	TP12	TP13	TP13
					0.5	1.2	1.6	4.3	0.3	3.2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2790	Dibenzofuran	132649	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	4-Chlorophenylether	7005723	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg ⁻¹	N			0.76	<0.5	<0.5	<0.5
	Anthracene	120127	mg kg ⁻¹	N			0.68	<0.5	<0.5	<0.5
	Carbazole	86748	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg ⁻¹	N			1.0	<0.5	<0.5	<0.5
	Pyrene	129000	mg kg ⁻¹	N			0.79	<0.5	<0.5	<0.5
	Butylbenzylphthalate	85687	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg ⁻¹	N			0.56	<0.5	<0.5	<0.5
	Chrysene	218019	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N			0.61	<0.5	<0.5	<0.5
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Benzo[a]pyrene	50328	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N			<0.5	<0.5	<0.5	<0.5
2792	3-carene		mg kg ⁻¹							
	Tentatively Identified Compounds		mg kg ⁻¹				Not detected	Not detected	Not detected	Not detected
2800	Naphthalene	91203	mg kg ⁻¹	M	1.1	<0.1	0.3	<0.1	<0.1	<0.1

LABORATORY TEST REPORT

Results of analysis of 39 samples
received 22 April 2009

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30 April 2009

FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98191	AD98192	AD98193	AD98194	AD98195	AD98196	AD98197	AD98198
					TP3	TP3	TP1	TP1	TP4	TP4	TP5	TP2
					0.5	1.4	0.4	1.8	0.4	1.3	0.6	2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2800	Acenaphthylene	208968	mg kg ⁻¹	N	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.3	<0.1
	Acenaphthene	83329	mg kg ⁻¹	M	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	86737	mg kg ⁻¹	M	<0.1	<0.1	0.9	<0.1	0.4	<0.1	0.1	<0.1
	Phenanthrene	85018	mg kg ⁻¹	M	<0.1	<0.1	5.1	<0.1	7.3	<0.1	3.4	<0.1
	Anthracene	120127	mg kg ⁻¹	M	<0.1	<0.1	1.4	<0.1	0.2	<0.1	0.7	<0.1
	Fluoranthene	206440	mg kg ⁻¹	M	<0.1	<0.1	5.7	<0.1	2.9	<0.1	6	<0.1
	Pyrene	129000	mg kg ⁻¹	M	<0.1	<0.1	4.9	<0.1	1	<0.1	5.2	<0.1
	Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1	<0.1	2.8	<0.1	0.3	<0.1	3	<0.1
	Chrysene	218019	mg kg ⁻¹	M	<0.1	<0.1	2.4	<0.1	0.8	<0.1	2.9	<0.1
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1	<0.1	3.2	<0.1	0.7	<0.1	4.3	<0.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.1	<0.1	0.9	<0.1	0.2	<0.1	1.4	<0.1
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	<0.1	2	<0.1	0.2	<0.1	2.9	<0.1
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	1.3	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1	1	<0.1	<0.1	<0.1	1.6	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	N	<2	<2	33	<2	38	<2	36	<2
2010	pH		-	M	7.4	7.6	7.7	7.9	5.0	6.5	8.3	8.2
2030	Moisture		%	n/a	20	12.3	22	20.9	33	16.1	20.1	20.9
	Stone content (as received)		%	n/a	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2140	Soil colour			n/a	brown	brown	brown	brown	brown	brown	brown	brown
	Soil texture			n/a	clay	clay	clay	clay	sand	clay	clay	clay
	Other material			n/a	none	none	none	none	stones	none	none	none

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FAO Andy Johnston

LE10104 - Lostock Works, Cheshire

					94530							
					AD98199	AD98200	AD98201	AD98202	AD98203	AD98204	AD98205	AD98206
					TP6	TP6	BH5	WS4	TP8	WS7	WS6	WS2
					0.6	3.3	2.1	0.05	0.5	0.4	0.8	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2800	Acenaphthylene	208968	mg kg ⁻¹	N	<0.1	0.3	25	<0.1	<0.1	<0.1	0.6	<0.1
	Acenaphthene	83329	mg kg ⁻¹	M	<0.1	<0.1	13	<0.1	<0.1	<0.1	0.8	<0.1
	Fluorene	86737	mg kg ⁻¹	M	<0.1	0.1	21	<0.1	<0.1	<0.1	0.9	<0.1
	Phenanthrene	85018	mg kg ⁻¹	M	<0.1	3.7	140	0.5	0.9	0.2	14	0.9
	Anthracene	120127	mg kg ⁻¹	M	<0.1	0.8	47	<0.1	0.2	<0.1	3	0.1
	Fluoranthene	206440	mg kg ⁻¹	M	<0.1	6.4	110	0.8	1.9	<0.1	15	1.5
	Pyrene	129000	mg kg ⁻¹	M	<0.1	5.4	80	0.7	1.5	<0.1	12	1.2
	Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1	3.2	51	0.3	0.7	<0.1	7.5	0.8
	Chrysene	218019	mg kg ⁻¹	M	<0.1	3.3	36	0.2	0.9	<0.1	7	0.8
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1	4.2	46	0.3	1.1	<0.1	8.3	1.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.1	1.3	16	<0.1	0.4	<0.1	2.7	0.2
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	3	33	<0.1	0.7	<0.1	5.8	0.5
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.1	0.2	5.5	<0.1	<0.1	<0.1	0.6	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	1.2	15	<0.1	0.2	<0.1	2.8	0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	1.7	14	<0.1	0.3	<0.1	3.1	0.2
	Total (of 16) PAHs		mg kg ⁻¹	N	<2	36	680	2.8	8.8	<2	87	7.4
2010	pH		-	M	8.2	8.0	8.7	5.4	12.0	9.1	7.9	7.9
2030	Moisture		%	n/a	8.39	15.4	23.7	21.5	5.93	9.75	11.5	13
	Stone content (as received)		%	n/a	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2140	Soil colour			n/a	brown	brown	brown	brown	brown	brown	brown	brown
	Soil texture			n/a	clay	clay	clay	clay	clay	clay	clay	clay
	Other material			n/a	none	none	none	none	none	none	none	none

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LE10104 - Lostock Works, Cheshire

					94530							
					AD98207	AD98208	AD98209	AD98210	AD98211	AD98212	AD98213	AD98214
					WS3	WS3	WS5	TP7	TP7	WS9	BH19	TP10
					0.4	2.1	0.5	0.2	0.5	0.3	0.5	0.7
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2800	Acenaphthylene	208968	mg kg ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	300	1.6
	Acenaphthene	83329	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	1	120	0.4
	Fluorene	86737	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	2.2	370	2
	Phenanthrene	85018	mg kg ⁻¹	M	0.2	<0.1	0.5	<0.1	<0.1	13	1200	13
	Anthracene	120127	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	3.4	480	3.1
	Fluoranthene	206440	mg kg ⁻¹	M	0.6	<0.1	0.8	<0.1	<0.1	14	1600	15
	Pyrene	129000	mg kg ⁻¹	M	0.4	<0.1	0.7	<0.1	<0.1	12	1200	12
	Benzo[a]anthracene	56553	mg kg ⁻¹	M	0.2	<0.1	0.2	<0.1	<0.1	6.7	790	6.5
	Chrysene	218019	mg kg ⁻¹	M	0.2	<0.1	0.3	<0.1	<0.1	6.3	940	5.6
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	0.2	<0.1	0.3	<0.1	<0.1	7.4	750	7.7
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	2.9	350	2
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	<0.1	0.2	<0.1	<0.1	6	660	5.6
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	170	0.6
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	2.6	380	2.9
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	3.1	440	2.9
	Total (of 16) PAHs		mg kg ⁻¹	N	<2	<2	2.9	<2	<2	85	10000	82
2010	pH		-	M	8.6	8.5	8.2	7.9	7.3	8.3	7.4	8.2
2030	Moisture		%	n/a	10.8	12.8	11.2	4.34	14.3	14.1	29.2	13.4
	Stone content (as received)		%	n/a	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2140	Soil colour			n/a	brown	brown	brown	brown	brown	brown	brown	brown
	Soil texture			n/a	clay	clay	clay	clay	clay	clay	clay	clay
	Other material			n/a	none	none	none	none	none	none	none	none

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					94530					
					AD98215	AD98216	AD98217	AD98218	AD98219	AD98220
					TP11	TP11	TP12	TP12	TP13	TP13
					0.5	1.2	1.6	4.3	0.3	3.2
					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2800	Acenaphthylene	208968	mg kg ⁻¹	N	0.9	0.2	0.2	<0.1	<0.1	<0.1
	Acenaphthene	83329	mg kg ⁻¹	M	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	86737	mg kg ⁻¹	M	0.8	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	85018	mg kg ⁻¹	M	4.3	0.3	0.9	<0.1	0.3	<0.1
	Anthracene	120127	mg kg ⁻¹	M	1.2	<0.1	0.1	<0.1	<0.1	<0.1
	Fluoranthene	206440	mg kg ⁻¹	M	3.9	0.3	1.2	<0.1	0.5	<0.1
	Pyrene	129000	mg kg ⁻¹	M	2.7	0.2	0.9	<0.1	0.3	<0.1
	Benzo[a]anthracene	56553	mg kg ⁻¹	M	1.4	<0.1	0.6	<0.1	0.2	<0.1
	Chrysene	218019	mg kg ⁻¹	M	1.3	<0.1	0.4	<0.1	0.1	<0.1
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	1.5	<0.1	0.7	<0.1	0.2	<0.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	0.4	<0.1	0.2	<0.1	<0.1	<0.1
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	1.1	<0.1	0.4	<0.1	<0.1	<0.1
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	0.4	<0.1	0.1	<0.1	<0.1	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	0.4	<0.1	0.1	<0.1	<0.1	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	N	22	<2	6.1	<2	<2	<2
2010	pH		-	M	8.5	8.1	12.6	9.4	9.0	8.0
2030	Moisture		%	n/a	1.11	13.6	23.2	10.2	3.06	13.3
	Stone content (as received)		%	n/a	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
2140	Soil colour			n/a	brown	brown	brown	brown	brown	brown
	Soil texture			n/a	clay	clay	clay	clay	clay	clay
	Other material			n/a	none	none	none	none	none	none

Van Elle Geotechnical Division
Kirkby Lane
Pinxton
Nottinghamshire
NG16 6JAFAO Robert Serjeant
13 May 2009

Dear Robert Serjeant

Test Report Number 94744
Your Project Reference LE10104 - Lostock Works, Cheshire

Please find enclosed the results of analysis for the samples received 7 May 2009.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely



Authorised Signatory

 Darrell Hall Laboratory Manager
 Phil Hellier Operations Director
 Keith Jones Technical Development Manager
 John Crawford Quality Manager
 Malcolm Avis Technical Director*Notes to accompany report:*

- The sign < means 'less than'
- Tests marked 'U' hold UKAS accreditation
- Tests marked 'M' hold MCertS (and UKAS) accreditation
- Tests marked 'N' do not currently hold UKAS accreditation
- Tests marked 'S' were subcontracted to an approved laboratory
- n/e means 'not evaluated'
- i/s means 'insufficient sample'
- u/s means 'unsuitable sample'
- Comments or interpretations are outside of the scope of UKAS accreditation
- The results relate only to the items tested
- Stones represent the quantity of material removed prior to analysis
- All results are expressed on a dry weight basis
- The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, phenols
- For all other tests the samples were dried at < 37°C prior to analysis
- Uncertainties of measurement for the determinands tested are available upon request
- Soil descriptions, including colour and texture, are beyond the scope of MCertS accreditation

Test Report 94744 Cover Sheet

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

Login Batch No

Chemtest LIMS ID

Sample ID

Sample No

Depth

Matrix

SOP ↓ Determinand ↓

CAS No ↓

Units ↓

*

					94744		
					AE02083	AE02084	AE02085
					BH6	BH6	BH8
					1.05	1.2	1.6
					LEACHATE	LEACHATE	LEACHATE
1010	pH	PH	-	U	7.4	7.7	7.6
1450	Arsenic	7440382	µg l ⁻¹	U	51	51	22
	Cadmium	7440439	µg l ⁻¹	U	<0.5	<0.5	<0.5
	Chromium	7440473	µg l ⁻¹	U	1.4	2.3	5.0
	Copper	7440508	µg l ⁻¹	U	3.1	3.1	7.6
	Lead	7439921	µg l ⁻¹	U	<1	1.2	1.0
	Mercury	7439976	µg l ⁻¹	U	<0.5	<0.5	<0.5
	Nickel	7440020	µg l ⁻¹	U	14	18	5.7
	Selenium	7782492	µg l ⁻¹	U	26	27	7.0
	Zinc	7440666	µg l ⁻¹	U	32	33	61
1675	TPH aliphatic >C5-C6		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aliphatic >C6-C8		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aliphatic >C8-C10		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aliphatic >C10-C12		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aliphatic >C12-C16		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aliphatic >C16-C21		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aliphatic >C21-C35		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C5-C7		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C7-C8		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C8-C10		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C10-C12		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C12-C16		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C16-C21		µg l ⁻¹	N	<0.1	<0.1	<0.1
	TPH aromatic >C21-C35		µg l ⁻¹	N	<0.1	<0.1	<0.1
Total Petroleum Hydrocarbons		µg l ⁻¹	N	<10	<10	<10	
1700	Naphthalene	91203	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Acenaphthylene	208968	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Acenaphthene	83329	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Fluorene	86737	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Phenanthrene	85018	µg l ⁻¹	N	<0.01	<0.01	<0.01

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 1 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744		
					AE02083	AE02084	AE02085
					BH6	BH6	BH8
					1.05	1.2	1.6
					LEACHATE	LEACHATE	LEACHATE
1700	Anthracene	120127	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Fluoranthene	206440	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Pyrene	129000	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Chrysene	218019	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.01	<0.01	<0.01
	Total (of 16) PAHs		µg l ⁻¹	N	<0.2	<0.2	<0.2
	1760	Dichlorodifluoromethane	75718	µg l ⁻¹	U	<1	<1
Chloromethane		74873	µg l ⁻¹	U	<1	<1	<1
Vinyl chloride		75014	µg l ⁻¹	U	<1	<1	<1
Bromomethane		74839	µg l ⁻¹	U	<20	<20	<20
Chloroethane		75003	µg l ⁻¹	U	<2	<2	<2
Trichlorofluoromethane		75694	µg l ⁻¹	U	<1	<1	<1
1,1-Dichloroethene		75354	µg l ⁻¹	U	<1	<1	<1
Dichloromethane		75092	µg l ⁻¹	U	ne	ne	ne
trans-1,2-Dichloroethene		156605	µg l ⁻¹	U	<1	<1	<1
1,1-Dichloroethane		75343	µg l ⁻¹	U	<1	<1	<1
cis-1,2-Dichloroethene		156592	µg l ⁻¹	U	<1	<1	<1
Bromochloromethane		74975	µg l ⁻¹	U	<1	<1	<1
Trichloromethane		67663	µg l ⁻¹	U	<1	<1	<1
1,1,1-Trichloroethane		71556	µg l ⁻¹	U	<1	<1	<1
Tetrachloromethane		56235	µg l ⁻¹	U	<1	<1	<1
1,1-Dichloropropene		563586	µg l ⁻¹	U	<1	<1	<1
Benzene	71432	µg l ⁻¹	U	<1	<1	<1	
1,2-Dichloroethane	107062	µg l ⁻¹	U	<2	<2	<2	
Trichloroethene	79016	µg l ⁻¹	U	<1	<1	<1	

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 2 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
 received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744		
					AE02083	AE02084	AE02085
					BH6	BH6	BH8
					1.05	1.2	1.6
					LEACHATE	LEACHATE	LEACHATE
1760	1,2-Dichloropropane	78875	µg l ⁻¹	U	<1	<1	<1
	Dibromomethane	74953	µg l ⁻¹	U	<10	<10	<10
	Bromodichloromethane	75274	µg l ⁻¹	U	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg l ⁻¹	U	<10	<10	<10
	Toluene	108883	µg l ⁻¹	U	<1	<1	<1
	trans-1,3-Dichloropropene	10061026	µg l ⁻¹	U	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg l ⁻¹	U	<10	<10	<10
	Tetrachloroethene	127184	µg l ⁻¹	U	<1	<1	<1
	1,3-Dichloropropane	142289	µg l ⁻¹	U	<2	<2	<2
	Dibromochloromethane	124481	µg l ⁻¹	U	<10	<10	<10
	1,2-Dibromoethane	106934	µg l ⁻¹	U	<5	<5	<5
	Chlorobenzene	108907	µg l ⁻¹	U	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg l ⁻¹	U	<2	<2	<2
	Ethylbenzene	100414	µg l ⁻¹	U	<1	<1	<1
	m- & p-Xylene	1330207	µg l ⁻¹	U	<1	<1	<1
	o-Xylene	95476	µg l ⁻¹	U	<1	<1	<1
	Styrene	100425	µg l ⁻¹	U	<1	<1	<1
	Tribromomethane	75252	µg l ⁻¹	U	<10	<10	<10
	Isopropylbenzene	98828	µg l ⁻¹	U	<1	<1	<1
	Bromobenzene	108861	µg l ⁻¹	U	<1	<1	<1
	1,1,1,2-Tetrachloroethane	79345	µg l ⁻¹	U	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg l ⁻¹	U	<50	<50	<50
	n-Propylbenzene	103651	µg l ⁻¹	U	<1	<1	<1
	2-Chlorotoluene	95498	µg l ⁻¹	U	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg l ⁻¹	U	<1	<1	<1
	4-Chlorotoluene	106434	µg l ⁻¹	U	<1	<1	<1
	tert-Butylbenzene	98066	µg l ⁻¹	U	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg l ⁻¹	U	<1	<1	<1
	sec-Butylbenzene	135988	µg l ⁻¹	U	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg l ⁻¹	U	<1	<1	<1
	4-Isopropyltoluene	99876	µg l ⁻¹	U	<1	<1	<1

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 3 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744		
					AE02083	AE02084	AE02085
					BH6	BH6	BH8
					1.05	1.2	1.6
					LEACHATE	LEACHATE	LEACHATE
1760	1,4-Dichlorobenzene	106467	µg l ⁻¹	U	<1	<1	<1
	n-Butylbenzene	104518	µg l ⁻¹	U	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg l ⁻¹	U	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg l ⁻¹	U	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	U	<1	<1	<1
	Hexachlorobutadiene	87683	µg l ⁻¹	U	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg l ⁻¹	U	<2	<2	<2
1762	Tentatively Identified Compounds		µg l ⁻¹		None Detected	None Detected	None Detected
1790	N-Nitrosodimethylamine	62759	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Phenol	108952	µg l ⁻¹	N	<0.05	<0.05	<0.05
	bis(2-Chloroethyl)ether	111444	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2-Chlorophenol	95578	µg l ⁻¹	N	<0.05	<0.05	<0.05
	1,3-Dichlorobenzene	541731	µg l ⁻¹	N	<0.05	<0.05	<0.05
	1,4-Dichlorobenzene	106467	µg l ⁻¹	N	<0.05	<0.05	<0.05
	1,2-Dichlorobenzene	95501	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2-Methylphenol	95487	µg l ⁻¹	N	<0.05	<0.05	<0.05
	bis(2-Chloroisopropyl)ether	108601	µg l ⁻¹	N	<0.05	<0.05	<0.05
	4-Methylphenol	106445	µg l ⁻¹	N	<0.05	<0.05	<0.05
	N-Nitrosodi-n-propylamine	621647	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Hexachloroethane	67721	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Nitrobenzene	98953	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Isophorone	78591	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2-Nitrophenol	88755	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2,4-Dimethylphenol	105679	µg l ⁻¹	N	<0.05	<0.05	<0.05
	bis(2-Chloroethoxy)methane	111911	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2,4-Dichlorophenol	120832	µg l ⁻¹	N	<0.05	<0.05	<0.05
	1,2,4-Trichlorobenzene	120821	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Naphthalene	91203	µg l ⁻¹	N	<0.05	<0.05	<0.05
	4-Chloroaniline	106478	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Hexachlorobutadiene	87683	µg l ⁻¹	N	<0.05	<0.05	<0.05
	4-Chloro-3-methylphenol	59507	µg l ⁻¹	N	<0.05	<0.05	<0.05

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 4 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744		
					AE02083	AE02084	AE02085
					BH6	BH6	BH8
					1.05	1.2	1.6
					LEACHATE	LEACHATE	LEACHATE
1790	2-Methylnaphthalene	91576	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Hexachlorocyclopentadiene	77474	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2,4,6-Trichlorophenol	88062	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2,4,5-Trichlorophenol	95954	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2-Chloronaphthalene	91587	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2-Nitroaniline	88744	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Dimethylphthalate	131113	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2,6-Dinitrotoluene	606202	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Acenaphthylene	208968	µg l ⁻¹	N	<0.05	<0.05	<0.05
	3-Nitroaniline	99092	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Acenaphthene	83329	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Dibenzofuran	132649	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2,4-Dinitrotoluene	121142	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Diethylphthalate	84662	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Fluorene	86737	µg l ⁻¹	N	<0.05	<0.05	<0.05
	4-Chlorophenylether	7005723	µg l ⁻¹	N	<0.05	<0.05	<0.05
	4-Nitroaniline	100016	µg l ⁻¹	N	<0.05	<0.05	<0.05
	2-Methyl-4,6-dinitrophenol	534521	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Azobenzene	103333	µg l ⁻¹	N	<0.05	<0.05	<0.05
	4-Bromophenylphenylether	101553	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Hexachlorobenzene	118741	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Pentachlorophenol	87865	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Phenanthrene	85018	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Anthracene	120127	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Carbazole	86748	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Di-n-butylphthalate	84742	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Fluoranthene	206440	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Pyrene	129000	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Butylbenzylphthalate	85687	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Benzo[a]anthracene	56553	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Chrysene	218019	µg l ⁻¹	N	<0.05	<0.05	<0.05

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 5 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
 received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744		
					AE02083	AE02084	AE02085
					BH6	BH6	BH8
					1.05	1.2	1.6
					LEACHATE	LEACHATE	LEACHATE
1790	bis(2-Ethylhexyl)phthalate	117817	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Di-n-octylphthalate	117840	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Benzo[b]fluoranthene	205992	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Benzo[k]fluoranthene	207089	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Benzo[a]pyrene	50328	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Indeno[1,2,3-cd]pyrene	193395	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Dibenzo[a,h]anthracene	53703	µg l ⁻¹	N	<0.05	<0.05	<0.05
	Benzo[g,h,i]perylene	191242	µg l ⁻¹	N	<0.05	<0.05	<0.05
1792	Tentatively Identified Compounds		ug l ⁻¹		None Detected	None Detected	None Detected

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

Login Batch No

Chemtest LIMS ID

Sample ID

Sample No

Depth

Matrix

SOP ↓ Determinand ↓

CAS No ↓

Units ↓

*

					94744			
					AE02079	AE02080	AE02081	AE02082
					BH6	BH6	BH8	BH8
					1.05	1.2	1.6	2.6
					SOIL	SOIL	SOIL	SOIL
SOP ↓	Determinand ↓	CAS No ↓	Units ↓	*				
2450	Arsenic	7440382	mg kg ⁻¹	M	250	290	38	60
	Cadmium	7440439	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.42
	Chromium	7440473	mg kg ⁻¹	M	15	19	22	50
	Copper	7440508	mg kg ⁻¹	M	23	22	24	63
	Mercury	7439976	mg kg ⁻¹	M	0.42	0.78	0.32	0.64
	Nickel	7440020	mg kg ⁻¹	M	19	30	20	52
	Lead	7439921	mg kg ⁻¹	M	31	28	45	100
	Selenium	7782492	mg kg ⁻¹	M	4.5	8.1	0.95	0.56
	Zinc	7440666	mg kg ⁻¹	M	30	32	40	79
2625	Fraction of Organic Carbon			M	0.021	0.014	0.027	0.0067
2675	TPH aliphatic >C5-C6		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C8-C10		mg kg ⁻¹	N	1.5	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg ⁻¹	N	7.2	0.8	< 0.1	< 0.1
	TPH aliphatic >C12-C16		mg kg ⁻¹	N	55	20	< 0.1	< 0.1
	TPH aliphatic >C16-C21		mg kg ⁻¹	N	78	30	< 0.1	< 0.1
	TPH aliphatic >C21-C35		mg kg ⁻¹	N	26	9.6	< 0.1	< 0.1
	TPH aromatic >C5-C7		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg ⁻¹	N	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg ⁻¹	N	3.8	0.7	< 0.1	1.8
	TPH aromatic >C12-C16		mg kg ⁻¹	N	9.3	7.0	< 0.1	11
	TPH aromatic >C16-C21		mg kg ⁻¹	N	6.7	0.4	< 0.1	19
	TPH aromatic >C21-C35		mg kg ⁻¹	N	1.9	0.3	< 0.1	4.9
	Total Petroleum Hydrocarbons		mg kg ⁻¹	N	190	68	< 10	37
2760	Dichlorodifluoromethane	75718	µg kg ⁻¹	U	<1	<1	<1	<1
	Chloromethane	74873	µg kg ⁻¹	M	<1	<1	<1	<1
	Vinyl chloride	75014	µg kg ⁻¹	M	<1	<1	<1	<1
	Bromomethane	74839	µg kg ⁻¹	U	<20	<20	<20	<20
	Chloroethane	75003	µg kg ⁻¹	U	<2	<2	<2	<2

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 7 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744			
					AE02079	AE02080	AE02081	AE02082
					BH6	BH6	BH8	BH8
					1.05	1.2	1.6	2.6
					SOIL	SOIL	SOIL	SOIL
2760	Trichlorofluoromethane	75694	µg kg ⁻¹	U	<1	<1	<1	<1
	1,1-Dichloroethene	75354	µg kg ⁻¹	U	<1	<1	<1	<1
	Dichloromethane	75092	µg kg ⁻¹	U	ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg ⁻¹	M	<1	<1	<1	<1
	1,1-Dichloroethane	75343	µg kg ⁻¹	M	<1	<1	<1	<1
	cis-1,2-Dichloroethene	156592	µg kg ⁻¹	M	<1	<1	<1	<1
	Bromochloromethane	74975	µg kg ⁻¹	U	<1	<1	<1	<1
	Trichloromethane	67663	µg kg ⁻¹	M	<1	<1	<1	<1
	1,1,1-Trichloroethane	71556	µg kg ⁻¹	M	<1	<1	<1	<1
	Tetrachloromethane	56235	µg kg ⁻¹	M	<1	<1	<1	<1
	1,1-Dichloropropene	563586	µg kg ⁻¹	U	<1	<1	<1	<1
	Benzene	71432	µg kg ⁻¹	M	<1	<1	<1	<1
	1,2-Dichloroethane	107062	µg kg ⁻¹	M	<2	<2	<2	<2
	Trichloroethene	79016	µg kg ⁻¹	N	<1	<1	<1	<1
	1,2-Dichloropropane	78875	µg kg ⁻¹	U	<1	<1	<1	<1
	Dibromomethane	74953	µg kg ⁻¹	U	<10	<10	<10	<10
	Bromodichloromethane	75274	µg kg ⁻¹	U	<5	<5	<5	<5
	cis-1,3-Dichloropropene	10061015	µg kg ⁻¹	U	<10	<10	<10	<10
	Toluene	108883	µg kg ⁻¹	M	<1	1.3	<1	<1
	trans-1,3-Dichloropropene	10061026	µg kg ⁻¹	U	<10	<10	<10	<10
	1,1,2-Trichloroethane	79005	µg kg ⁻¹	M	<10	<10	<10	<10
	Tetrachloroethene	127184	µg kg ⁻¹	M	<1	<1	<1	<1
	1,3-Dichloropropane	142289	µg kg ⁻¹	U	<2	<2	<2	<2
	Dibromochloromethane	124481	µg kg ⁻¹	U	<10	<10	<10	<10
	1,2-Dibromoethane	106934	µg kg ⁻¹	U	<5	<5	<5	<5
	Chlorobenzene	108907	µg kg ⁻¹	M	<1	<1	<1	<1
	1,1,1,2-Tetrachloroethane	630206	µg kg ⁻¹	M	<2	<2	<2	<2
	Ethylbenzene	100414	µg kg ⁻¹	M	<1	<1	<1	<1
	m- & p-Xylene	1330207	µg kg ⁻¹	M	<1	2.3	<1	<1
	o-Xylene	95476	µg kg ⁻¹	M	<1	9.6	<1	<1
	Styrene	100425	µg kg ⁻¹	U	<1	<1	<1	<1

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 8 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Report Date
13 May 2009

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744			
					AE02079	AE02080	AE02081	AE02082
					BH6	BH6	BH8	BH8
					1.05	1.2	1.6	2.6
					SOIL	SOIL	SOIL	SOIL
2760	Tribromomethane	75252	µg kg ⁻¹	U	<10	<10	<10	<10
	Isopropylbenzene	98828	µg kg ⁻¹	U	<1	5.7	<1	<1
	Bromobenzene	108861	µg kg ⁻¹	U	<1	<1	<1	<1
	1,1,2,2-Tetrachloroethane	79345	µg kg ⁻¹	M	<10	<10	<10	<10
	1,2,3-Trichloropropane	96184	µg kg ⁻¹	U	<50	<50	<50	<50
	n-Propylbenzene	103651	µg kg ⁻¹	U	<1	<1	<1	<1
	2-Chlorotoluene	95498	µg kg ⁻¹	U	<1	<1	<1	<1
	1,3,5-Trimethylbenzene	108678	µg kg ⁻¹	U	<1	110	<1	<1
	4-Chlorotoluene	106434	µg kg ⁻¹	U	<1	<1	<1	<1
	tert-Butylbenzene	98066	µg kg ⁻¹	U	<1	<1	<1	<1
	1,2,4-Trimethylbenzene	95636	µg kg ⁻¹	U	<1	210	<1	<1
	sec-Butylbenzene	135988	µg kg ⁻¹	U	<1	<1	<1	<1
	1,3-Dichlorobenzene	541731	µg kg ⁻¹	U	<1	<1	<1	<1
	4-Isopropyltoluene	99876	µg kg ⁻¹	U	<1	<1	<1	<1
	1,4-Dichlorobenzene	106467	µg kg ⁻¹	U	<1	<1	2.5	<1
	n-Butylbenzene	104518	µg kg ⁻¹	U	<1	<1	<1	<1
	1,2-Dichlorobenzene	95501	µg kg ⁻¹	U	<1	<1	<1	<1
	1,2-Dibromo-3-chloropropane	96128	µg kg ⁻¹	U	<50	<50	<50	<50
	1,2,4-Trichlorobenzene	120821	µg kg ⁻¹	U	<1	<1	<1	<1
	Hexachlorobutadiene	87683	µg kg ⁻¹	U	<1	<1	<1	<1
	1,2,3-Trichlorobenzene	87616	µg kg ⁻¹	U	<2	<2	<2	<2
2762	benzene,1-ethyl-3-methyl		µg kg ⁻¹			330		
	Tentatively Identified Compounds		µg kg ⁻¹		None detected		None detected	None detected
2790	N-Nitrosodimethylamine	62759	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Phenol	108952	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	95578	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	1,4-Dichlorobenzene	106467	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 9 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744			
					AE02079	AE02080	AE02081	AE02082
					BH6	BH6	BH8	BH8
					1.05	1.2	1.6	2.6
					SOIL	SOIL	SOIL	SOIL
2790	bis(2-Chloroisopropyl)ether	108601	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Chloronaphthalene	91587	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Dimethylphthalate	131113	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	3-Nitroaniline	99092	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Dibenzofuran	132649	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	4-Chlorophenylether	7005723	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 10 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744			
					AE02079	AE02080	AE02081	AE02082
					BH6	BH6	BH8	BH8
					1.05	1.2	1.6	2.6
					SOIL	SOIL	SOIL	SOIL
2790	4-Nitroaniline	100016	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg ⁻¹	N	<0.5	<0.5	<0.5	0.52
	Anthracene	120127	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Carbazole	86748	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg ⁻¹	N	<0.5	<0.5	<0.5	0.65
	Pyrene	129000	mg kg ⁻¹	N	<0.5	<0.5	<0.5	0.50
	Butylbenzylphthalate	85687	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Chrysene	218019	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Benzo[a]pyrene	50328	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	N	<0.5	<0.5	<0.5	<0.5
2792	diphenyl sulfone		mg kg ⁻¹		6			
	Tentatively Identified Compounds		mg kg ⁻¹			Not detected	Not detected	Not detected
2800	Naphthalene	91203	mg kg ⁻¹	M	0.2	<0.1	<0.1	0.5
	Acenaphthylene	208968	mg kg ⁻¹	N	<0.1	<0.1	<0.1	0.1
	Acenaphthene	83329	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1
	Fluorene	86737	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.4
	Phenanthrene	85018	mg kg ⁻¹	M	0.3	<0.1	<0.1	5.5
	Anthracene	120127	mg kg ⁻¹	M	<0.1	<0.1	<0.1	1.2

All tests undertaken between 17-Apr-2009 and 13-May-2009

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 11 of 12

Report sample ID range AE02079 to AE02085

LABORATORY TEST REPORT

Results of analysis of 7 samples
 received 07 May 2009

FAO Robert Serjeant

LE10104 - Lostock Works, Cheshire

					94744			
					AE02079	AE02080	AE02081	AE02082
					BH6	BH6	BH8	BH8
					1.05	1.2	1.6	2.6
					SOIL	SOIL	SOIL	SOIL
2800	Fluoranthene	206440	mg kg ⁻¹	M	<0.1	<0.1	<0.1	4.7
	Pyrene	129000	mg kg ⁻¹	M	<0.1	<0.1	<0.1	3.3
	Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1	<0.1	<0.1	1.7
	Chrysene	218019	mg kg ⁻¹	M	<0.1	<0.1	<0.1	1.7
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1	<0.1	<0.1	1.7
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	N	<0.1	<0.1	<0.1	0.6
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.9
	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	N	<0.1	<0.1	<0.1	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.4
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.4
	Total (of 16) PAHs		mg kg ⁻¹	N	<2	<2	<2	23
2010	pH		-	M	10.0	9.7	7.4	7.7
2030	Moisture		%	n/a	25.5	23.2	30.7	22
	Stone content (as received)		%	n/a	<0.02	<0.02	<0.02	<0.02
2140	Soil colour			n/a	brown	brown	brown	brown
	Soil texture			n/a	clay	clay	clay	clay
	Other material			n/a	stones	stones	stones	stones
2186	Asbestos Containing Material		-	N	not found	not found	not found	not found

Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix G

Plates



Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	Views of Recovered Cores from WS1 & WS3 (Inside Building)	Rev.	
		Plate 1	



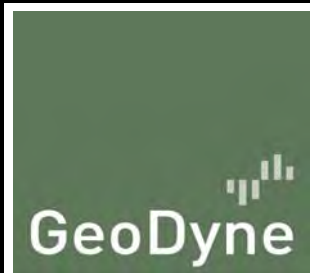


Recovered cores from WS4



Recovered cores from WS8

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	Views of Recovered Cores from WS4 & WS8	Rev.	
		Plate 2	



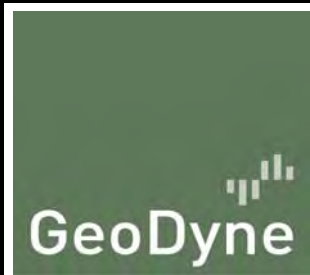


Exploratory Hole WS8



Recovered cores from WS10

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	Views of Exploratory Hole WS8 & Recovered Core from WS10	Rev.	
		3	



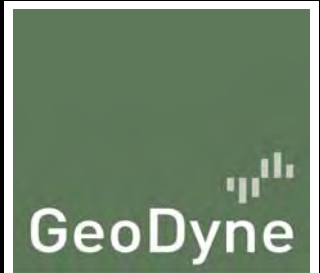


Cable Percussive Rig Advancing Exploratory Hole BH1



Cable Percussive Rig Advancing Exploratory Hole BH4

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	Cable Percussive Drilling Rig	Rev.	
		Plate 4	



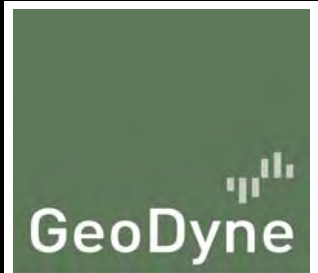


Cable Percussive Rig Advancing Exploratory Hole BH7



Cable Percussive Rig Advancing Exploratory Hole BH18A

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	Cable Percussive Drilling Rig	Rev.	
		Plate 5	





Exploratory Hole TP1



Exploratory Hole TP4

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	View of Exploratory Hole TP1 & TP4	Rev.	
		Plate 6	





Exploratory Hole TP5




Exploratory Hole TP6

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	View of Exploratory Hole TP5 & TP6	Rev.	
		Plate 7	





Project No.	29002	Drawn	GJS	
Client	Viridor Limited	Checked		
		Approved		
Project	Lostock Works Cheshire	Scale	NTS	
		Date Drawn	30/04/2009	
Title	View of Exploratory Hole TP11 & TP12	Rev.		
		Plate 8		



Exploratory Hole TP13



Horizons excavated from TP13

Project No.	29002	Drawn	GJS
Client	Viridor Limited	Checked	
		Approved	
Project	Lostock Works Cheshire	Scale	NTS
		Date Drawn	30/04/2009
Title	Views of Exploratory Hole TP13	Rev.	
		Plate 9	



Phase II Factual Report

Contract: Lostock Works, Cheshire

Ref: G900000

Appendix H

Conditions and Limitations

Conditions & Limitations

Phase I Desk Studies

1. Works undertaken to provide the basis of the Phase I Desk Study report comprise a review of information available from a number of sources/parties (potentially also including the Client) together with a walk over of the site (where applicable and included within the quotation). The opinions given in the Phase I Desk Study are based on the information available from third parties/sources that has been obtained within the available timeframe. Van Elle assumes all third party information to be true and correct and therefore cannot accept liability for the accuracy of such information supplied.
2. Should additional information become available that may affect the comments and opinions made within the Phase I Desk Study, Van Elle reserves the right to review such information and make modifications to comments/opinions as appropriate.
3. It should be borne in mind that a Phase I Desk Study collates available information to generate a conceptual model of the site. The actual geotechnical and environmental considerations can only be fully quantified by intrusive investigation works to confirm the accuracy of the conceptual site model.

Phase II Intrusive Investigations

1. Our quotation assumes that access to the site will be arranged by others at no cost to ourselves.
2. We have assumed that free access is available throughout to the entire site and that works can be undertaken during a single mobilisation. Where restricted access is encountered, or where additional unscheduled mobilisations are required, additional costs may be incurred to the client.
3. We have assumed that all available information relating to buried services will be supplied by the Client at no cost to ourselves. No responsibility will be accepted for damage to underground services that have not been brought to our prior attention by the Client.
4. All excavations/boreholes will be backfilled with compacted arisings upon completion, with any excess arisings left proud of ground levels. Excess arisings will not be removed from the site unless specifically requested by the Client. Where we are requested to remove excess arisings, all associated costs will be passed to the Client.
5. We will attempt to leave the site in a clean and tidy state, however, it must be understood that some disturbance of the site is unavoidable during intrusive works.
6. Exploratory holes are positioned approximately on site by Van Elle. Should the client require precise locations of all exploratory points, additional fees will be incurred. It must be borne in mind that backfilled trial pits can create 'soft spots', therefore, should the Client wish to designate 'no dig' zones, for example under the footprint of proposed structures, these must be brought to our attention prior to commencement of works.
7. Groundwater observations relate to conditions encountered at the time of investigation. It must be understood that groundwater levels may vary as a result of recent climatic conditions or seasonal variation.
8. Trial pits and boreholes examine only a small proportion of the total site area. No liability can be accepted for conditions not revealed in exploratory holes, particularly between positions. All extrapolations of available data are given in good faith.

Payment

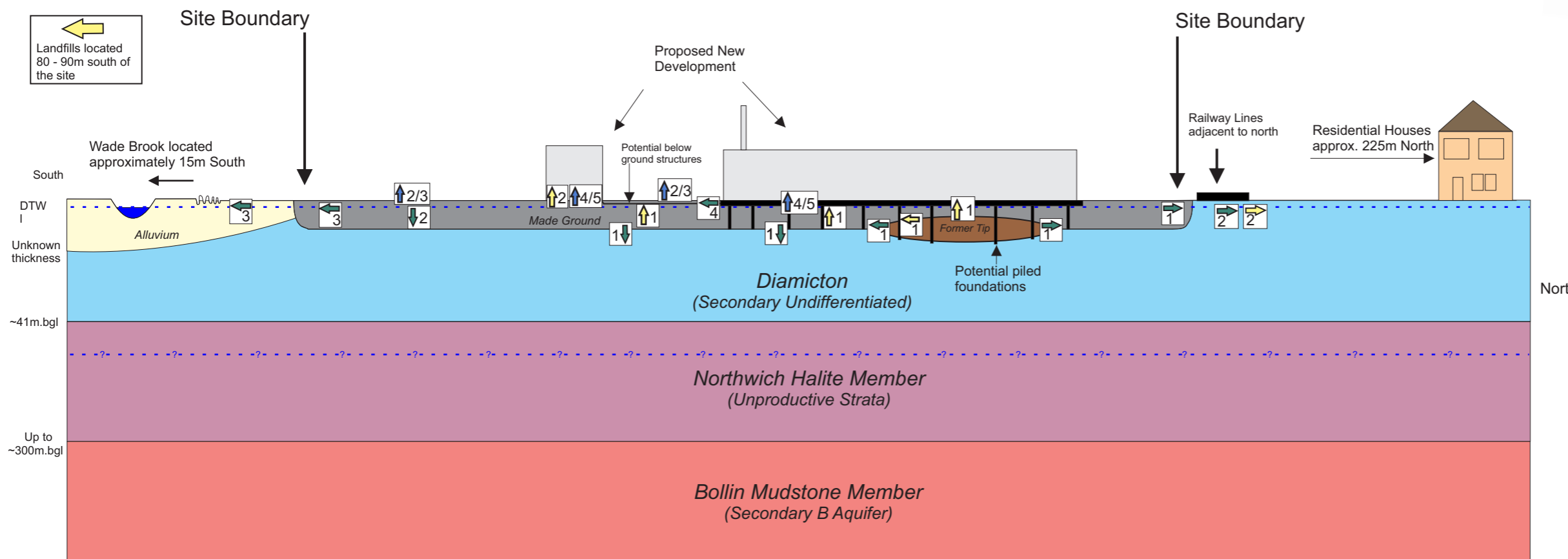
1. Payment terms are strictly 28 days from the invoice date.
2. Prior to commencement of works, we require receipt of formal written instruction from the party accepting full financial responsibility for the work. In the absence of such an instruction, we would expect the instructing Consulting Engineers/Architects to accept full financial responsibility for the works.
3. Receipt of instruction to commence work shall be taken as acceptance and compliance of the foregoing conditions.

Liability

1. No individual liability shall be implied to, or accepted by, any employee for works undertaken for and on the behalf of Van Elle.

Note:

Conceptual cross section is not to scale



Site Layout Plan



Approximate section line

Potential Sources - Onsite:

Soil/ Groundwater Contamination and Ground Gas associated with:

- Former Bleach Works; organometallics, PAHs, cresols, phenols, chlorinated organic compounds, halogenated organics, solvents (non-chlorinated), dioxins, inorganic metals and metalloids, other inorganic ions including chlorides, chlorates, fluorides and ammonium bisulphate, acids, alkalis, asbestos, PCBs and fuels i.e. coke.

- Former Chlorine Works; chlorides, sulphates, sulphides, metals, alkalis (including calcium oxide, sodium hydroxide and sodium carbonate), hydrochloric and sulphuric acid, hydrocarbons, PAHs, chlorinated solvents, inorganics, PCBs and asbestos

- Made Ground - Infilling of Reservoirs/ Former Tip (landfill); Metals, PAHs, hydrocarbons, chlorinated solvents, asbestos, and ground gas.

Potential Sources - Offsite:

Soil/ Groundwater Contamination and Ground Gas associated with:

- Chemical Works (located adjacent to the east); Metals, PAHs, hydrocarbons, chlorinated solvents, asbestos

- Salt Works (150m Southwest); Metals, PAHs, hydrocarbons, and asbestos.

- Railways (adjacent to north and 100m to the south); Metals, PAHs, hydrocarbons, asbestos

- Landfills (three landfills 80m - 90m south); Ground gas

Potential Pathways - Human Health

- ↑ 1. Dermal Contact
- ↑ 2. Inhalation of Soil Dust
- ↑ 3. Ingestion of Soil Dust
- ↑ 4. Inhalation of Soil Vapours
- ↑ 5. Inhalation of Ground Gas vapours

Potential Pathways - Controlled Waters

- ← 1. Leaching of mobile contaminants from Made Ground.
- ← 2. Vertical migration of mobile contaminants in permeable strata.
- ← 3. Lateral migration of mobile contaminants in permeable strata.
- ← 4. Migration along subsurface structures.

Potential Pathways - Infrastructure

- ← 1. Direct contact with fill or contaminated soils.
- ← 2. Migration of ground gas

Potential Receptors - Human Health:

Future Site Users (workers at the proposed development)

Construction/Maintenance Personnel.

Off-site Receptors (Residential Houses located approx. 225m north)

Potential Receptors - Controlled Waters:

Shallow Groundwater (Made Ground)

Superficial Deposits (Alluvium - Secondary A Aquifer and Diamicton - Secondary (Undifferentiated).

Bedrock Aquifer (Sidmouth Mudstone - Unproductive Strata up to 300m in thickness in the vicinity of the site).

Wade Brook 15m to the south of the site.

Potential Receptors - Infrastructure:

Future Building structures

Underground utility services

Off-site structures

Complete Pollutant Linkages:

Human Health

Future Site Users - Potential for exposure to soil/groundwater contamination via dermal contact, inhalation and ingestion

Future Site Users - Potential for inhalation of soil vapours

Controlled Waters

Potential for lateral migration of soil/groundwater contamination via Made Ground/ Alluvium to Wade Brook

Low permeability Diamicton will prevent vertical migration to bedrock

Potential for migration along subsurface structures

Infrastructure

Potential for generation of ground gas from Made Ground/ onsite tip/offsite landfill into building structures.

Potential for concrete aggressive contamination to attack subsurface structures.



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Client: DONG Energy

Title: Conceptual Site Model

Site: REnaissance Northwich

Status: Final

Date: August 2015

Scale: NTS

Size: A3

Job Number: RCEI36418

Fig: 9.A Rev: 00



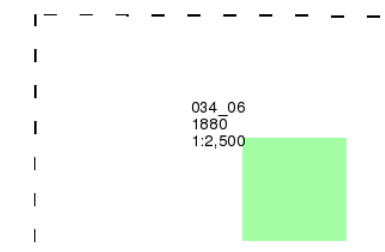
Cheshire

Published 1880

Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

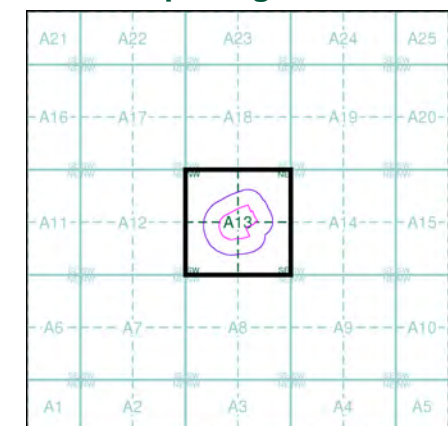
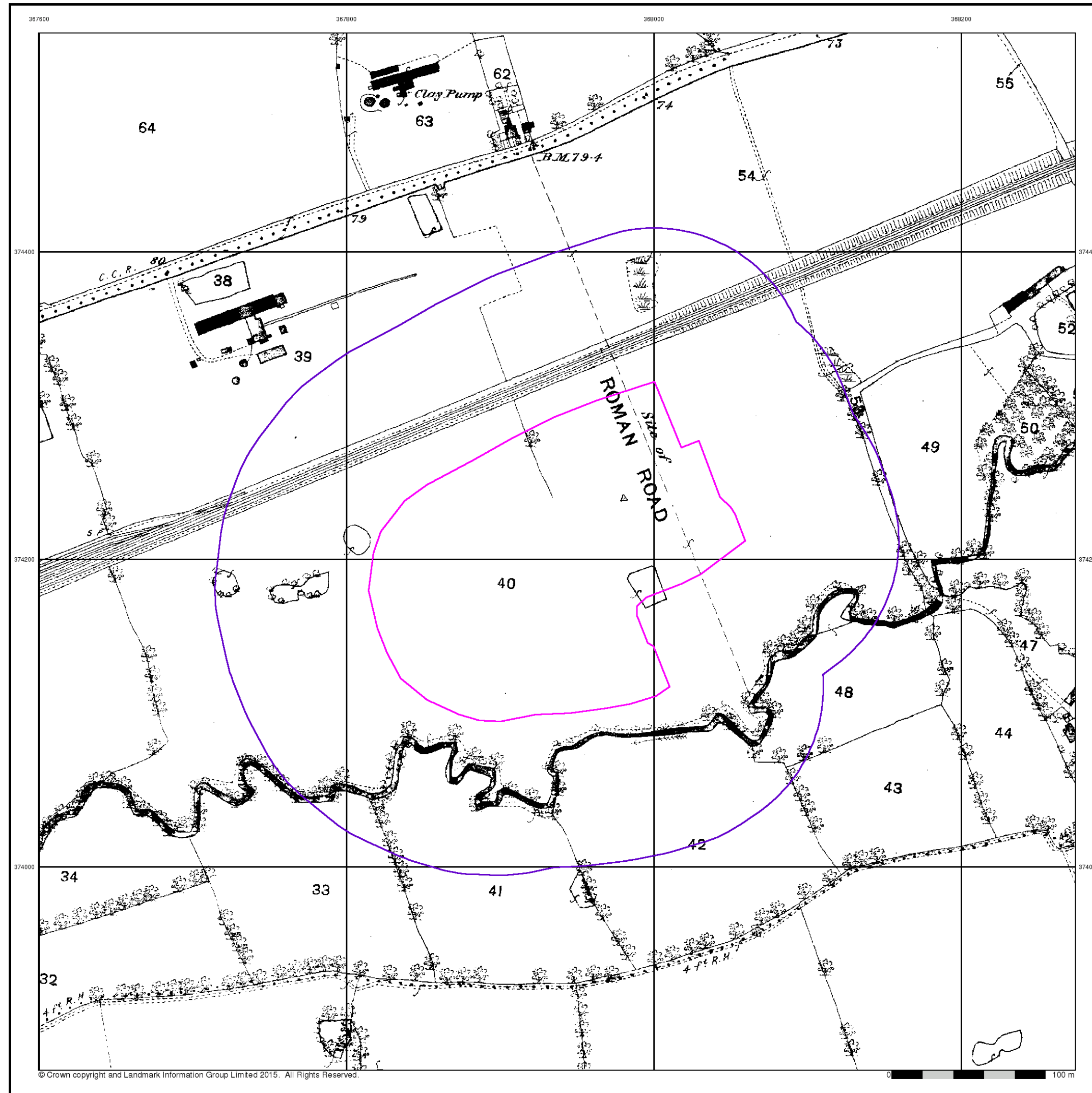
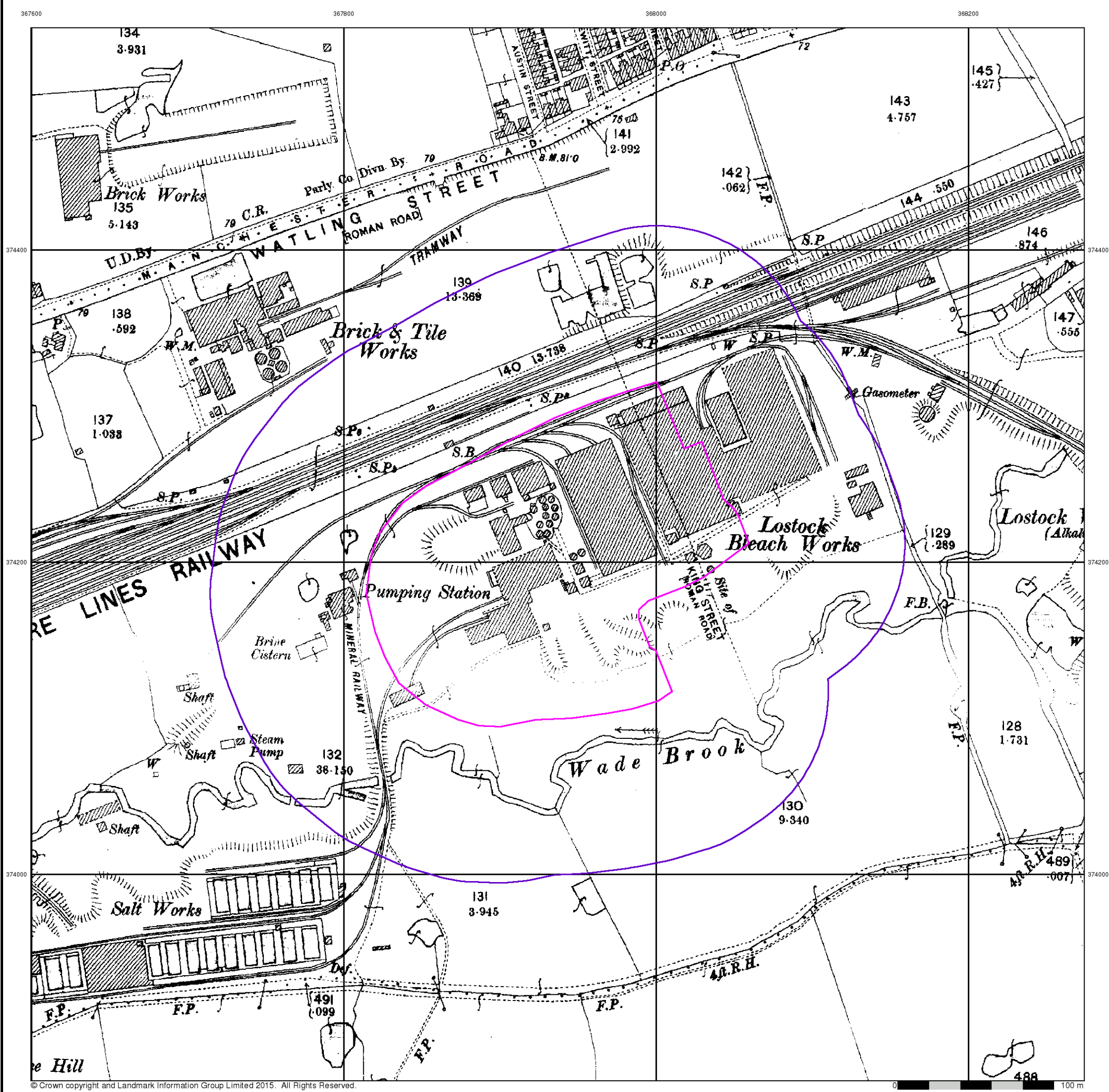


Figure Number: 9.B



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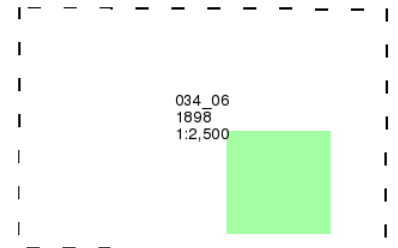




Cheshire
Published 1898
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

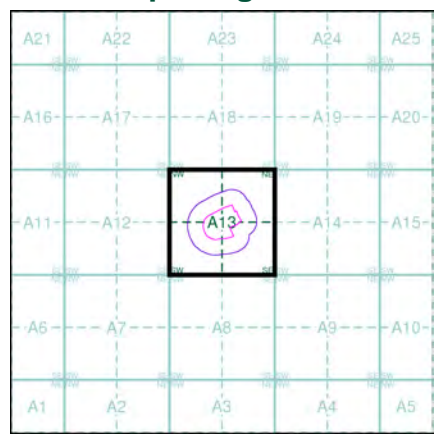
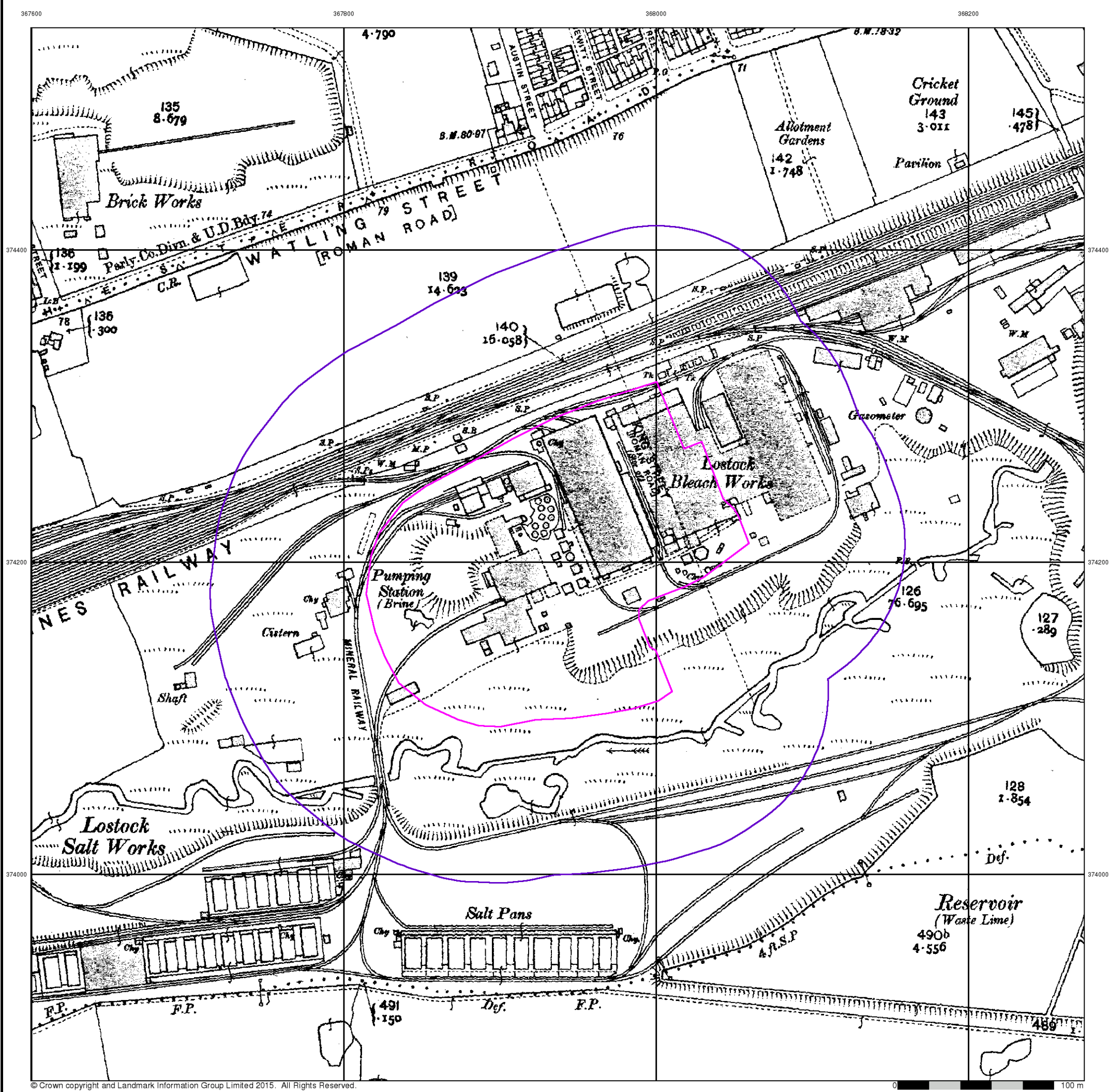


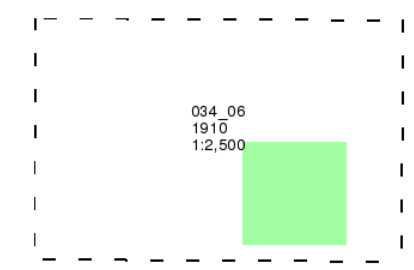
Figure Number: 9.C



Cheshire
Published 1910
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

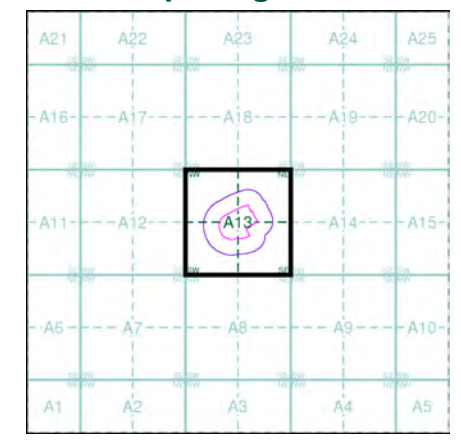


Figure Number: 9.D



Ordnance Survey Plan

Published 1963 - 1964

Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ6774NE	SJ6874NW
1963	1963
1:1,250	1:1,250
SJ6774SE	SJ6874SW
1963	1963
1:1,250	1:1,250
SJ6773NE	SJ6873NW
1964	1964
1:1,250	1:1,250

Historical Map - Segment A13

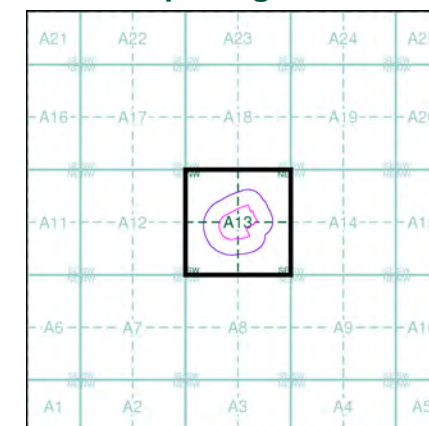
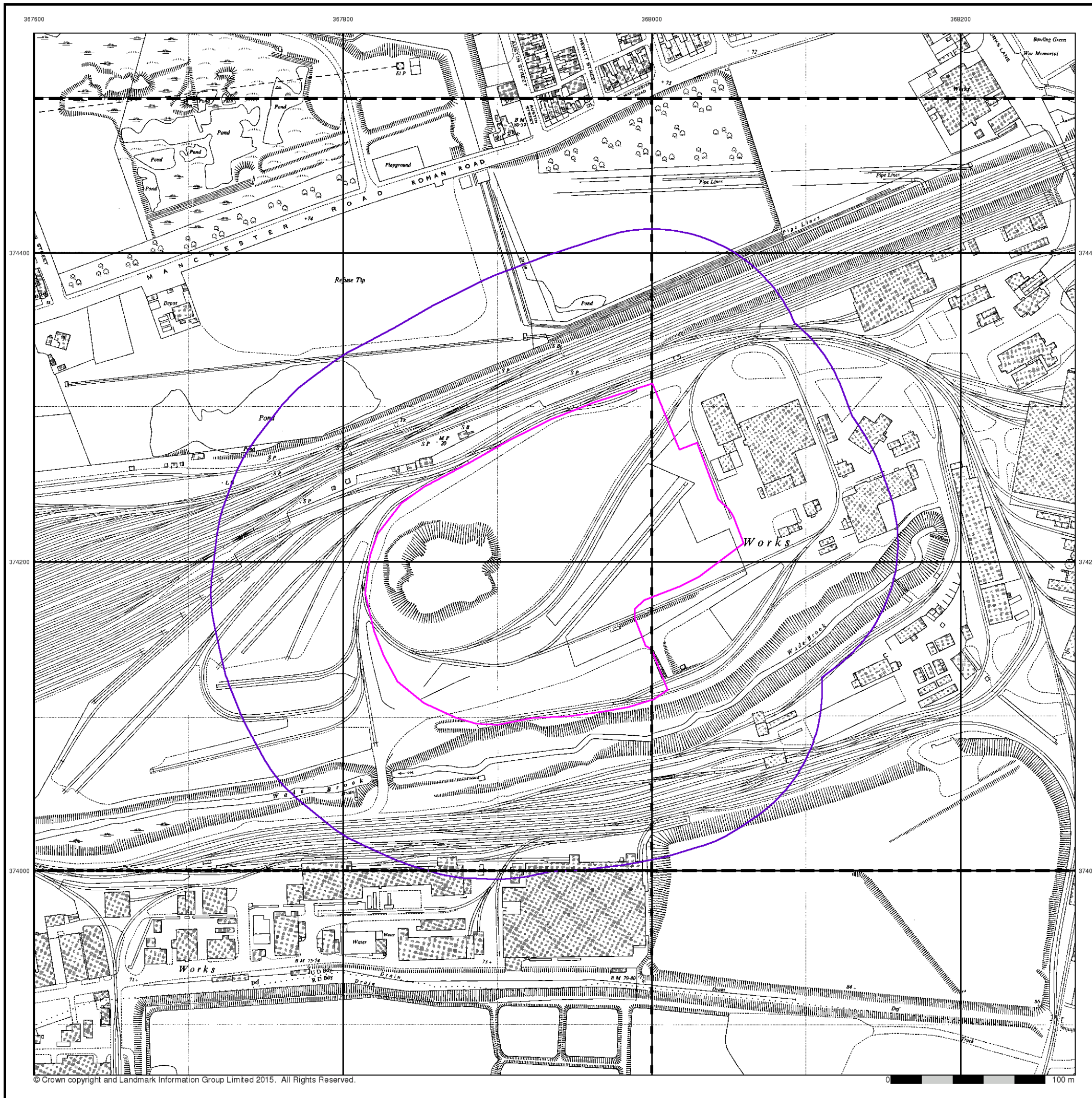
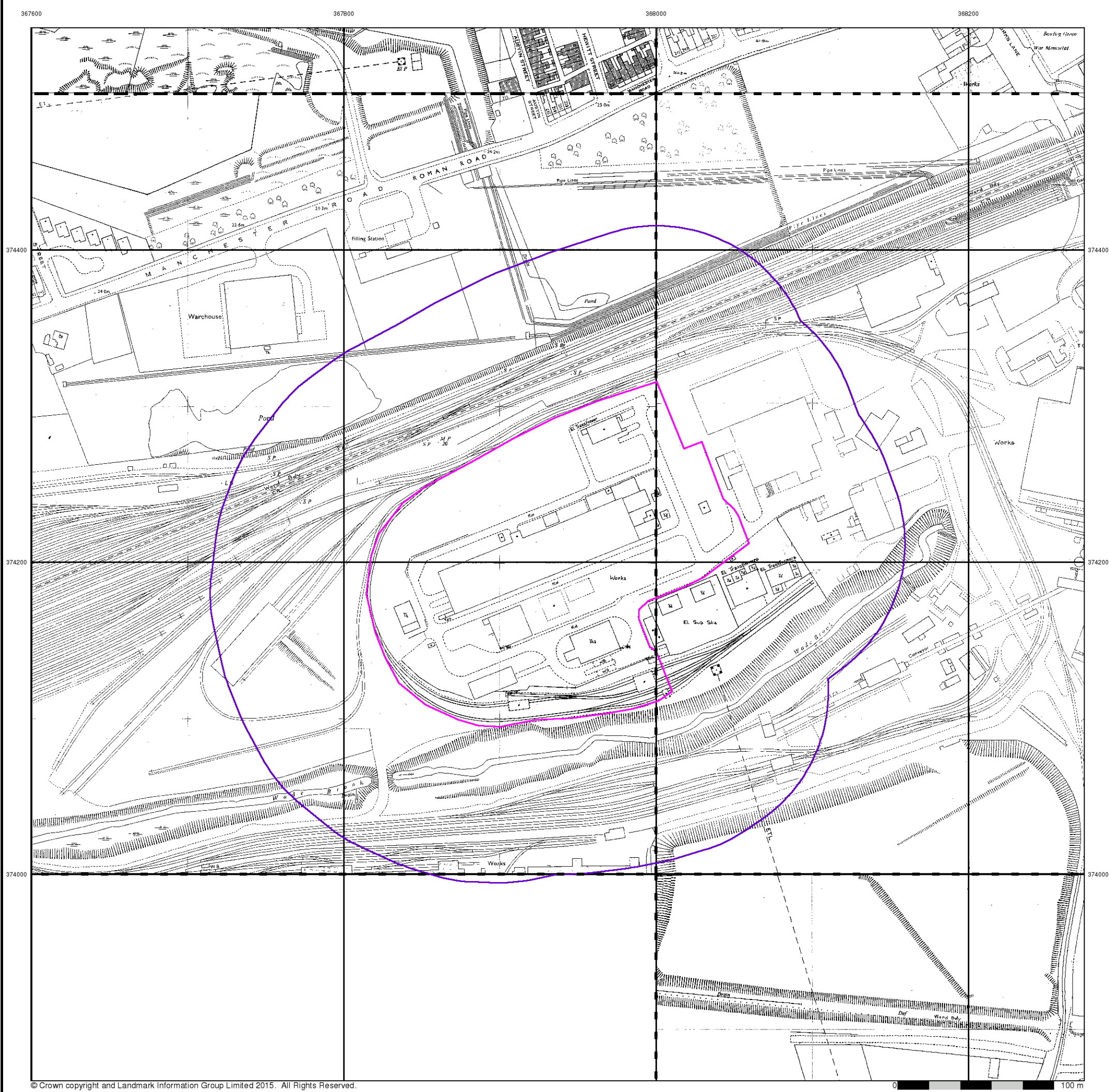


Figure Number: 9.E



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Additional SIMs
Published 1963 - 1990
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

6J6774NE	6J6874NW
1963	1983
1:1,250	1:1,250
6J6774SE	6J6874SW
1987	1990
1:1,250	1:1,250
6J6873NW	
1987	
1:1,250	

Historical Map - Segment A13

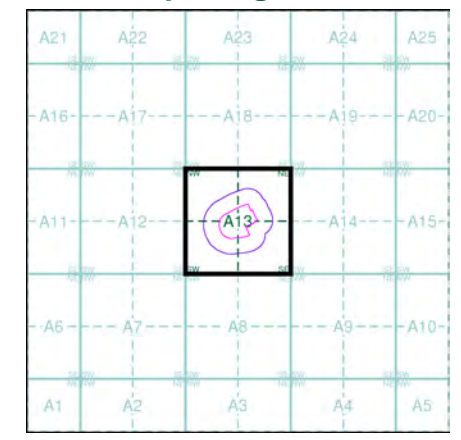
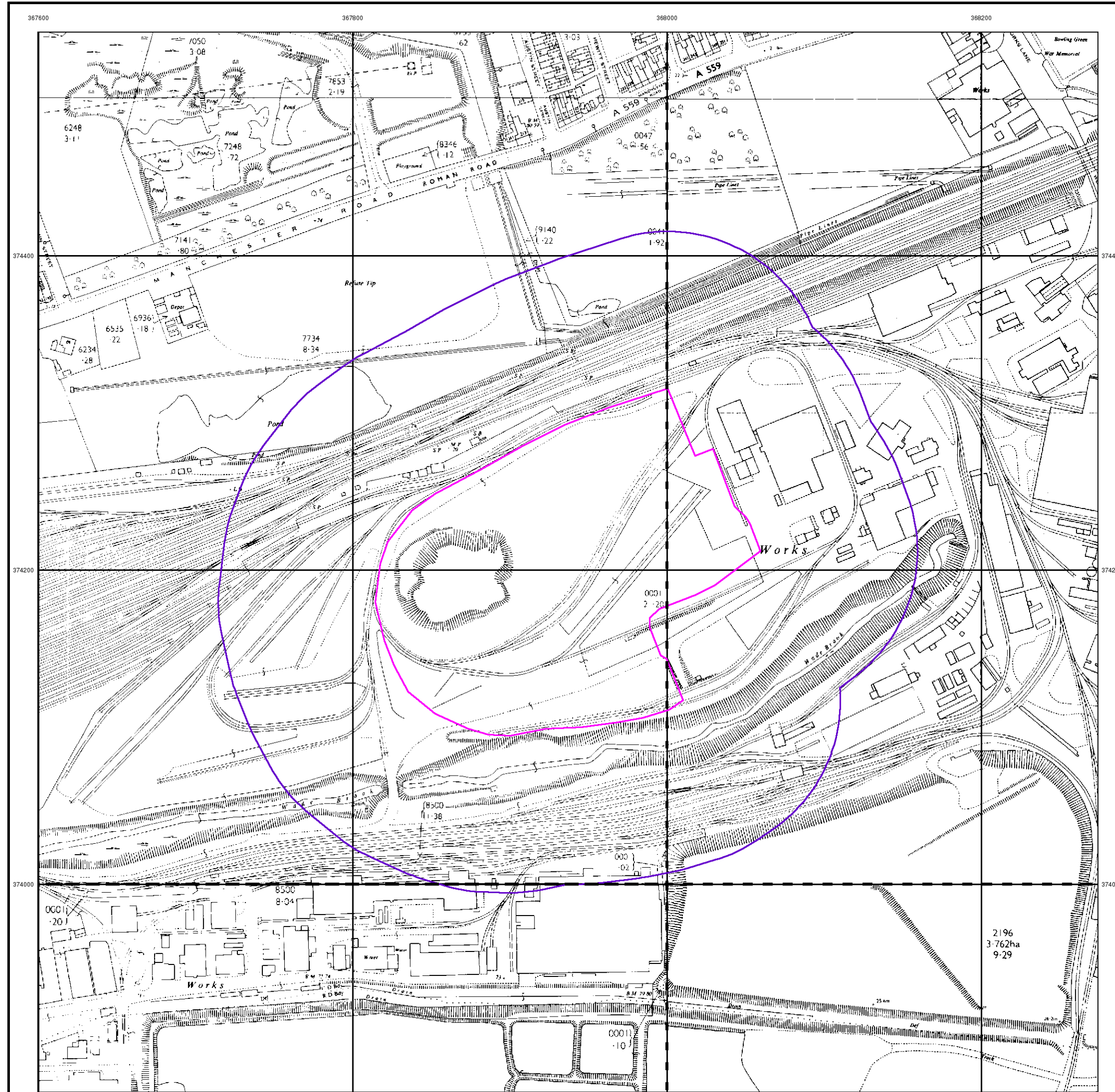


Figure Number: 9.F



Ordnance Survey Plan
Published 1964 - 1971
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ6774 1964 12,500	SJ6874 1971 12,500
SJ6773 1965 12,500	SJ6873 1971 12,500

Historical Map - Segment A13

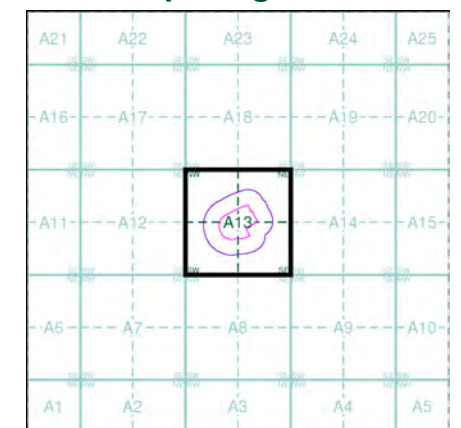
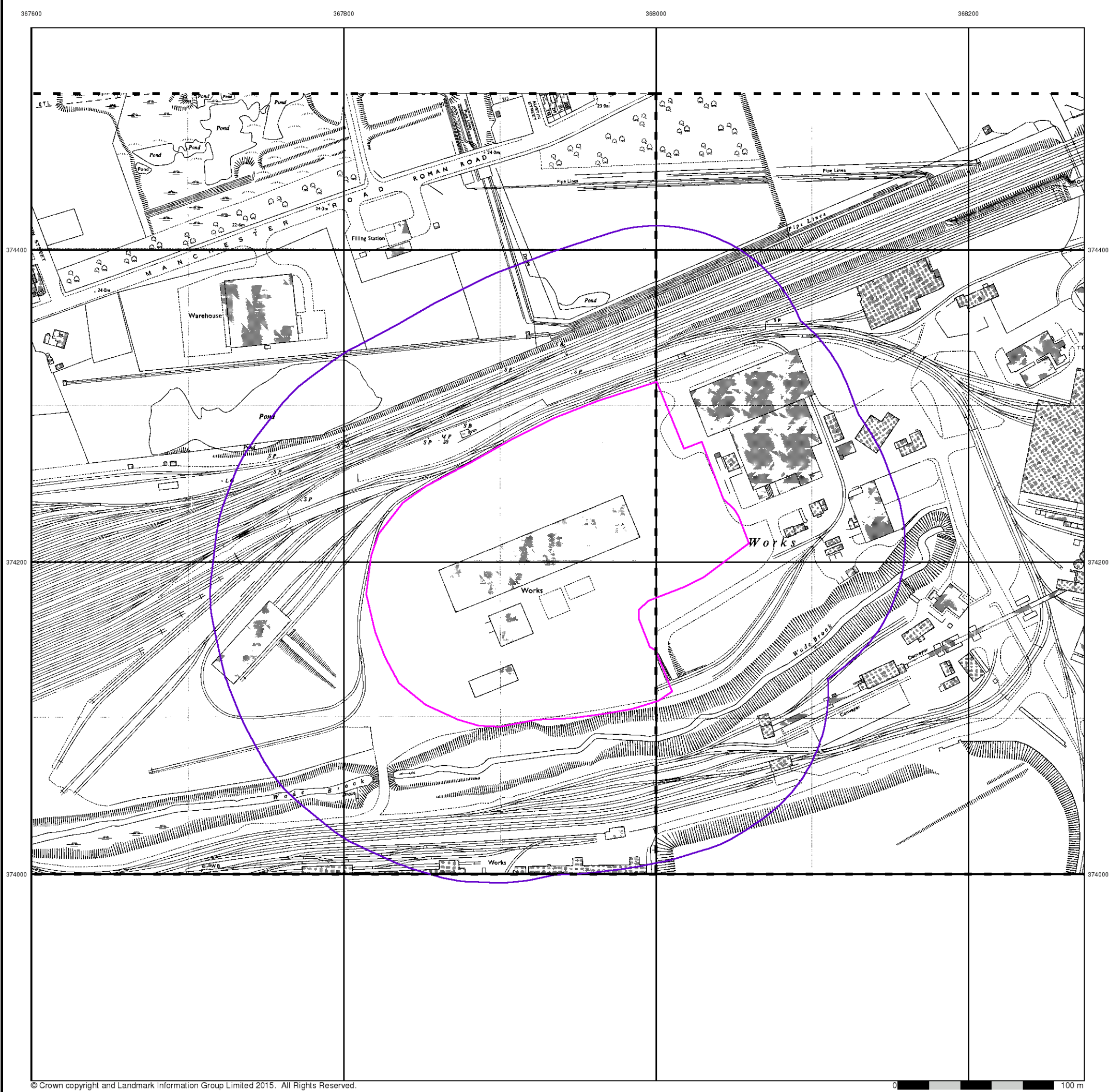


Figure Number: 9.G



Ordnance Survey Plan
Published 1976 - 1977
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ6774SE 1977 1:1,250	SJ6874SW 1976 1:1,250
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Historical Map - Segment A13

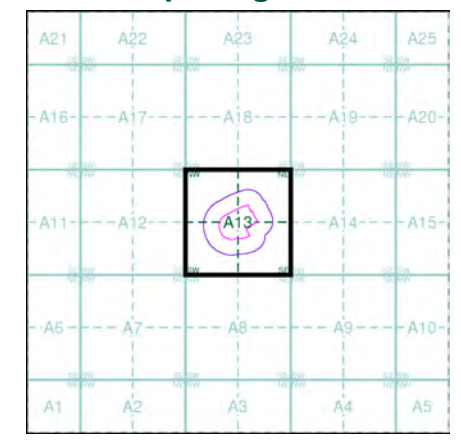


Figure Number: 9.H

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

	Quarry		Gravel Pit		Sand Pit
	Clay Pit		Shingle		Refuse Heap
	Sloping Masonry		Flat Rock		
	Marsh		Reeds		Osiers
	Rough Pasture		Furze		Wood
	Mixed Wood		Brushwood		Orchard
	Fir		Ford		Stepping Stones
	Ferry		Waterfall		Lock
	Trig. Station	507	Altitude at Trig. Station		
	B.M. 325.9	342	Surface Level		
	Arrow denotes flow of water		Antiquities (site of)		
	Cutting		Embankment		
	Railway crossing Road		Level Crossing		Road crossing Railway
	Railway crossing River or Canal		Road over single stream		Road over River or Canal
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
B.P. B.S.	Boundary Post or Stone	P.C.B.	Police Call Box		
B.R.	Bridle Road	P.	Pump		
E.P.	Electricity Pylon	S.P.	Signal Post		
F.B.	Foot Bridge	SL	Sluice		
F.P.	Foot Path	Sp.	Spring		
G.P.	Guide Post or Board	T.C.B.	Telephone Call Box		
M.S.	Mile Stone	Tr.	Trough		
M.P. M.R.	Mooring Post or Ring	W	Well		

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

	Inactive Quarry, Chalk Pit or Clay Pit		Active Quarry, Chalk Pit or Clay Pit
	Rock		Boulders
	Cliff		Slopes
	Roofed Building		Glazed Roof Building
	Sloping Masonry		Archway
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Coniferous Trees (not surveyed)
	Orchard Tree		Scrub
	Coppice, Osier		Reeds
	Rough Grassland		Heath
	Direction of water flow		Bench Mark
	Cave Entrance		Triangulation Station
	Electricity Transmission Line		Antiquity (site of)
	County Boundary (Geographical)		Electricity Pylon
	County & Civil Parish Boundary		
	County boundary		
	Civil Parish Boundary		
	Admin. County or County Bor. Boundary		
	London Borough Boundary		
	Symbol marking point where boundary mereing changes		
BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
EI P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

	Cliff		Rock		Rock (scattered)
	Boulders		Positioned Boulder		Scree
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)		
	Non-Coniferous Trees (not surveyed)		Coniferous Trees (not surveyed)		
	Orchard Tree		Scrub		Bracken
	Coppice, Osier		Reeds		Marsh, Saltings
	Rough Grassland		Heath		Culvert
	Direction of water flow		Triangulation Station		Antiquity (site of)
	Electricity Transmission Line		Electricity Pylon		
	B.M. 231.60m Bench Mark		Buildings with Building Seed		
	Roofed Building		Glazed Roof Building		
	Civil parish/community boundary				
	District boundary				
	County boundary				
	Boundary post/stone				
	Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)				
Bks	Barracks	P	Pillar, Pole or Post		
Bty	Battery	PO	Post Office		
Cemy	Cemetery	PC	Public Convenience		
Chy	Chimney	Pp	Pump		
Cis	Cistern	Ppg Sta	Pumping Station		
Dismtd Rly	Dismantled Railway	PW	Place of Worship		
EI Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station		
EI P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge		
EI Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light		
FB	Filter Bed	Spr	Spring		
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track		
Gas Gov	Gas Valve Compound	Tr	Trough		
GVC	Gas Governor	Wd Pp	Wind Pump		
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap		
MH	Manhole	Wks	Works (building or area)		
MP, MS	Mile Post or Mile Stone	W	Well		



Historical Map - Segment A13

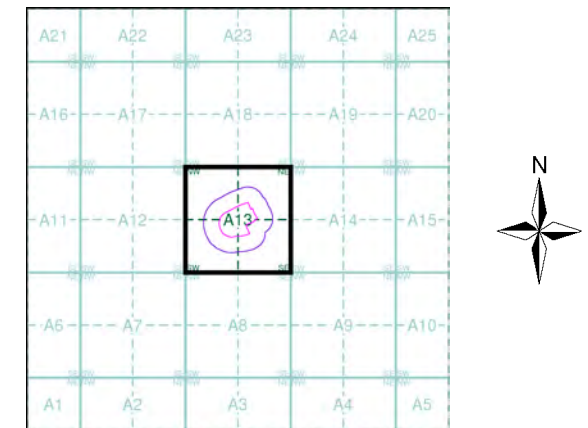


Figure Number: 9.J