



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

TE1163-TE-00-XX-RP-GE-003-V01

VERSION 1.0

23 JUNE 2023

FINAL

Prepared for:

Tritax Symmetry Ltd

Prepared by: Alex Preston

Tier Environmental Ltd

Warrington	London	Manchester	Bromsgrove	Bristol	Sheffield
HQ Telephone 01244 684900			Telephone 01925 818388		
Website: www.tieruk.com			Email: environmental@tieruk.com		
Tier Environmental is a trading name of Tier Environmental Ltd. Registered in England and Wales no 05441804					

DOCUMENT CONTROL

Report No. :	TE1163-TE-00-XX-RP-GE-003-V01
Report Status:	FINAL
Version No.:	1.0
Project Engineer:	Alex Preston
Date of Issue:	23/06/2023

This report has been prepared by Tier with all reasonable skill, care and diligence, within the best practice and guidance current at the time of issue within the scope of works which have been agreed with the client. This report is confidential to the client and Tier accepts no responsibility whatsoever to third parties to whom this report, or any part thereof is made presented, unless this is formally agreed in writing by a Director of Tier Environmental Ltd before any reliance is made. Any such party relies upon the report at their own risk. Tier disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

Version No.	Description of Issue / Revision	Date of Issue	Author	Reviewed By	Approved By
1.0	FINAL	23/06/2023	Alex Preston	Sean Lee	Adrian Read



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : i of iv
Engineer: Alex Preston
Date: 23/06/2023

CONTENTS

1.	INTRODUCTION.....	1
1.1.	Proposed Development Outline	1
1.2.	Objectives	1
1.3.	Assumptions.....	1
2.	SITE DETAILS AND DESCRIPTION	3
3.	PREVIOUS INVESTIGATION FINDINGS	4
3.1.	Preliminary Risk Assessment for the Former Cronton Colliery Site by Tier Environmental Ltd (Ref: TE1163PRA1 dated 4 th April 2019)	4
3.2.	Preliminary Ground Investigation Report for the Former Cronton Colliery Site by Tier Environmental Ltd (Ref: TE1163PGIR1.2 dated 13 th August 2020)	5
3.3.	A Ground Investigation Report for Symmetry Park Merseyside, Huyton by Tier Environmental Ltd (Ref: TE1163GIR1.4 dated 29 th March 2023).....	7
4.	FIELDWORK.....	11
4.1.	Scope of Ground Investigation.....	11
5.	DESK BASED COAL MINING RISK ASSESSMENT.....	12
5.1.	Previous Investigation.....	12
5.2.	Coal Mining Risk Assessment.....	12
5.3.	Coal Authority Mine Gas Emission Report	14
5.4.	Mine Shaft Data	14
6.	INTRUSIVE COAL MINING RISK ASSESSMENT	15
6.1.	General.....	15
6.2.	Coal Seams Encountered	15
6.3.	Evidence of Potential Shallow Mineworkings	16
6.4.	Surface Subsidence	17
6.5.	Opencast Workings	18
6.6.	Unrecorded Mine Entries.....	18
6.7.	Recorded Mineworkings	18
6.8.	Discussion	19
7.	CONCLUSIONS AND RECOMMENDATIONS	21
7.1.	Conclusions	21
8.	REGULATORY APPROVALS	22
8.1.	Treatment Works	22
8.2.	Development within the Influencing Distance of a Mine Entry.....	22
9.	REFERENCES.....	23



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : ii of iv
Engineer: Alex Preston
Date: 23/06/2023

10.	GLOSSARY OF TERMS	26
------------	--------------------------------	-----------

TABLES

Table 2.1 Current Site Overview.	3
Table 4.1 Scope of Ground Investigation and Rationale	11
Table 6-1 Summary of Observed Coal Seams	15
Table 6-2 Summary of Mineworkings	16

FIGURES

Figure 6-1 Location of encountered mineworkings	17
Figure 6-2 Historic Aerial Image Showing Potential Hummocky Ground.....	18
Figure 6-3 Location of approximate area at greatest risk from shallow mineworkings	19



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : iii of iv

Engineer: Alex Preston

Date: 23/06/2023

APPENDICES

Appendix A - Drawings

Appendix B - Exploratory Hole Logs

Appendix C – Coal Authority Records



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : iv of iv
Engineer: Alex Preston
Date: 23/06/2023

EXECUTIVE SUMMARY

Introduction	Tier Environmental was commissioned by Tritax Symmetry Ltd to undertake a Coal Mining Risk Assessment of Symmetry Park Merseyside. The purpose of the investigation was to determine risk that previous coal mining activities may pose to the development.
Site location	The site is located at the Former Cronton Colliery Site, Fox's Bank Lane, Cronton, L35 3SU.
Site history	The earliest available OS maps indicate that the site was occupied with agricultural land with pockets of woodland and hedgerows. OS maps from 1925 show that the southern and central areas of the Site were occupied by buildings, railway lines and spoil heaps associated with Cronton Colliery. It is understood that Cronton Colliery was operational between 1913 and 1984. The 2002 OS map indicates the presence of spoil heaps across the southern and eastern areas of the Site indicating regrading works were undertaken in the southern area of the Site. It is understood that in 1995, the site was partially restored by removing the colliery infrastructure and major earthworks, and then mixing colliery spoil with paper mill crumb and sewage cake to create soils to support woodland planting.
Fieldwork	The investigation, which was supervised by a Tier Environmental Geoenvironmental Engineer, took place between 20 th 25 th April 2023 and comprised: • The advancement of 14 No. open hole rotary boreholes.
Coal mining	It is considered that the following coal mining activities present potential constraints to the proposed development: • Low risk associated with the recorded mineworkings; • High risk of unrecorded shallow mineworkings; • Moderate to high risk of unrecorded mine entries; • Low risk associated with opencast coal workings; • Moderate risk of hazardous ground gases associated with historic coal mineworkings and the presence of coal seams beneath the Site. • Moderate risk of hazardous ground gas in the vicinity of the coal mine entries. Due to the presence of shallow workings, it is considered that the building footprints for units 02 and 04 that will be located within areas of historic shallow mineworkings will require drill and grouting. The Site is considered to potentially contain multiple further unrecorded mine entries. The proposals to addressing these features will be addressed in the Coal Mining Stabilisation Specification.



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : 1 of 27

Engineer: Alex Preston

Date: 23/06/2023

1. INTRODUCTION

Tier Environmental was commissioned by Tritax Symmetry Ltd to undertake Coal Mining Risk Assessment Land Contamination Risk for Symmetry Park Merseyside, located at the Former Cronton Colliery Site, Fox's Bank Lane, Cronton, L35 3SU (the "Site").

1.1. Proposed Development Outline

It has been assumed in the production of this report that in the northern and central portions of the Site, the redevelopment is to comprise multiple industrial warehouses, each with associated car parking areas, surface water attenuation ponds and areas of soft landscaping. In the south and eastern areas of the Site it is proposed that the site will be redeveloped into a country park, comprising woodland, ephemeral lakes and footpaths. A large-scale earthworks exercise (approximately 450,000m³ of cut/fill) is proposed to provide the appropriate development platforms and highway gradients.

1.2. Objectives

Taking into account the proposed development of the Site, the objectives of this appraisal were:

- To determine the risk posed to the Site via previous Coal Mining activities.

1.3. Assumptions

The following assumptions are made in this report:

- It is assumed that ground levels will not change significantly from those described in this report or as shown on proposed development drawings. If this is not the case, then amendments to the recommendations made in this report may be required.
- The ground investigation has been designed with due consideration of known or suspected constraints (including underground services and access constraints).
- Any references to observations of suspected asbestos-containing materials are for information only and should be verified by a suitably qualified asbestos specialist and/or confirmed by laboratory analysis.
- The use of the term 'Topsoil' within this report is based on a visual identification only and that these materials have not been classified in accordance with BS3882:2015.
- The use of the terms 'shallow' and 'deep' within this report (from a coal mining perspective) assume *typically* between ground level to circa 30m below ground level (bgl) for 'shallow' and greater than 30m bgl regarded as 'deep';
- The comments and opinions presented in this report are based on the findings of the desk study, review of third-party information, ground conditions encountered during intrusive investigation works performed by Tier Environmental and the results of tests carried out within one or more laboratories. There may be other conditions prevailing on the Site which have not been revealed by this investigation and which have not been taken into account by this report.
- Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of the findings is conjectural and given for guidance only. Confirmation of intermediate ground conditions should be undertaken if deemed necessary.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 2 of 27
Engineer: Alex Preston
Date: 23/06/2023

This report has been prepared for the sole use of Tritax Symmetry Ltd. No other third party may rely upon or reproduce the contents of this report without the written approval of Tier Environmental. If any unauthorised third party comes into possession of this report, they rely on it entirely at their own risk and the authors do not owe them any Duty of Care or Skill.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 3 of 27
Engineer: Alex Preston
Date: 23/06/2023

2. SITE DETAILS AND DESCRIPTION

Table 2.1 Current Site Overview.

Site name	Symmetry Park Merseyside
Site address	South of Halsnead Farm Livery Stables, Fox's Bank Lane, Cronton, L353SU. A site location plan is included as Drawing No. TE1163GIR1 within Appendix A.
National Grid Reference (NGR)	SJ 47493 89537
Approximate Site area	The Site is located south of the M62 in a predominantly agricultural area. The closest town is Whiston which is 2.3 km North of the Site.
Site shape	50.84ha
Current land use on the Site	The Site currently comprises an active construction site.
General topography and ground levels	The Site is generally undulating with ground levels in the north of the Site ranging from 44m AOD in the east to 24m AOD in the west. The southern area of the site is a plateau at 34m AOD with a steep slope towards the south to 25m AOD. Ground levels in the eastern area of the site generally decrease from 48m AOD to 40m AOD in the west and 34m AOD in the east and south.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 4 of 27
Engineer: Alex Preston
Date: 23/06/2023

3. PREVIOUS INVESTIGATION FINDINGS

3.1. Preliminary Risk Assessment for the Former Cronton Colliery Site by Tier Environmental Ltd (Ref: TE1163PRA1 dated 4th April 2019)

Introduction	Tier Environmental was commissioned by db symmetry to undertake a geo-environmental appraisal of the former Cronton Colliery. The purpose of the investigation was to undertake a desk study and Phase I Preliminary Risk Assessment to support the planning application for the proposed commercial/industrial development.
Site location	The site is located at Former Cronton Colliery Site, Fox's Bank Lane, Cronton, L35 3SU.
Site history	The earliest available OS maps indicate that the site was occupied with agricultural land with pockets of woodland and hedgerows. OS maps from 1925 show that the southern and central areas of the Site were occupied by buildings, railway lines and spoil heaps associated with Cronton Colliery. It is understood that Cronton Colliery was operational between 1913 and 1984. The 2002 OS map indicates the presence of spoil heaps across the southern and eastern areas of the Site indicating regrading works were undertaken in the southern area of the Site. It is understood that in 1995, the site was partially restored by removing the colliery infrastructure and major earthworks, and then mixing colliery spoil with paper mill crumb and sewage cake to create soils to support woodland planting.
Probable Ground conditions	The southern area of the Site is understood to underlain in part by Made Ground comprising manufactured topsoil (blend of colliery spoil, paper mill crumb and sewage cake). Superficial Deposits beneath the majority of the site are anticipated to comprise Till, with Alluvium locally within the eastern area of the site and in the vicinity of the proposed southern access road. The superficial deposits are underlain by the Pennine Middle Coal Measures Formation in the western half of the Site comprising mudstone, siltstone and sandstones and the Kinnerton Sandstone Formation in the eastern half of the Site comprising sandstones. The nature and thickness of the Made Ground and superficial deposits is likely to be significant in determining the final foundation design. The superficial stratum beneath the majority of the site (Till) is designated as a Secondary (undifferentiated) Aquifer, with the Alluvium along the eastern and south-eastern areas of the site designated as Secondary (A) Aquifer. The bedrock of the Pennine Middle Coal Measures Formation beneath the majority of the Site is designated as a Secondary (A) Aquifer and the Kinnerton Formation beneath the eastern area of the Site is designated as a Principal Aquifer.
Possible Foundations and floor slabs	Based on the published geological information and the proposed regrading works, there is the potential for poor ground to be present beneath the Site, notably Made Ground. These deposits are unlikely to provide a suitable foundation platform and, as such, the geotechnical investigation should determine the depth of these units. There is the potential that piled, raft or ground improvement foundation solutions may be required at the site, depending on the finalised design and anticipated loads of the properties. An earthworks exercise is also currently planned so it is likely material will need to be reengineered sufficiently, such as in accordance with Specification for Highways Work Series 600, to ensure economic floor slab and foundation design. In the event that contamination is identified at the Site, care must be taken to avoid creating vertical preferential pathways, although it is noted that the deeper aquifer systems are of low sensitivity.
Sulphate Risk	It is considered that, due to the presence of colliery spoil and Pennine Middle Coal Measures Formation at possible shallow depth, there is potential for upgraded concrete to be required for all surface and below ground structures. The ground conditions should be classified in accordance with BRE SD1.
Potential Soil and Groundwater Contamination	Tier Environmental has reviewed the historic information and there is evidence of potential contamination at the site within the shallow soils associated with the Site's former use as a colliery, brick works and sewage works; however, further site investigation would be required to assess this. In addition, it is considered that Made Ground may contain metals, PAHs, phenol, asbestos, sulphate and VOCs / SVOCs associated with the site's historic land uses and inherent concentrations within the Made Ground soils. There may be a requirement for further Detailed Quantitative Risk Assessment to fully establish potential risks to human health or controlled waters. In the event that potentially significant risks to future site users are identified from the risks assessment, then there is a potential for abnormal development costs associated with the implementation of a suitable cover system in soft landscaped areas or excavation and disposal of impacted soils to break potential direct contact, vapour and ingestion pathways.
Potential for gas protection	There is a potential for hazardous ground gases associated with the historic mine workings, shallow coal seam(s), mine entries, colliery spoil, Made Ground and former infilled ponds/reservoir. Upon completion of ground gas monitoring and assessment at the Site, it is considered likely that measured concentrations of potentially hazardous ground gases may be reported at concentrations and flow rates that present a potentially significant risk to the future site users. In this case, it may be that gas protection measures may be required as specified in BS8485:2015+A1:2019. These protection measures may include passive or active systems



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : 5 of 27

Engineer: Alex Preston

Date: 23/06/2023

	such as venting or membrane systems dependant on the outcome of the ground gas assessment which may present an abnormal development cost.
Regrading works	It is understood that significant regrading works will be required to provide a suitable platform for the proposed development. It is understood that the regrading works will generally comprise the cut of materials from the eastern area of the site likely to be colliery spoil and placement of these materials across the rest of the site. The proposed intrusive ground investigation will need to determine whether the proposed cut materials will be suitable for reuse and compaction as general fill (with or without material conditioning).
Slope stability	The regrading works are likely to result in slopes integrated into the development layout. It is recommended that slope stability analyses are undertaken during the design phase; the results of the analyses may affect the unit dimensions, foundation solutions and floor slab designs for the proposed units. Retaining structures may also be required locally, notably to the west of unit DBS1 to maximise the floor area of this unit and minimise potential impact on the adjacent 'ancient woodland'.
Surface water drainage	Surface water runoff within historic coal mining areas are often acidic and can contain elevated concentrations of metals, notably iron that can result in ochrous discharges into watercourses if not treated. The site is currently drained through a network of ditches/open watercourses flowing in a general southwest direction, following the local gradient. It is understood that surface water attenuation ponds are to be incorporated into the proposed development. It is considered at this stage that soakaways are unlikely to be suitable across the majority of the Site due to the likely presence of low permeability strata and the potential risk of causing unacceptable settlements within the colliery spoil and fill materials.
Historic mineworkings	The Coal Authority Mining Report states that the south-western area of the Site is located in an area that could be affected by historic shallow mineworkings. The stabilisation of shallow coal mineworkings may be required beneath the proposed structures, highways and infrastructure to minimise the risk of potential settlements affecting the proposed development. It is considered at this stage that there is a low risk of the recorded mine workings affecting the proposed development across the majority of the site.
Mine entries	There are 3 No. recorded mine entries recorded within the site boundary. It is understood that these mine entries will not be disturbed during the proposed development and that their management will be remain the responsibility of the Coal Authority. It is recommended that the land ownership of the fenced-off areas around these shafts be retained by the current owner/Coal Authority. Additional unrecorded mine entries should be anticipated, notably in the south-western area of the site. The areas around all mine entries should be assumed to have a high risk of collapse until the treatment status can be proven.
Further works	It is recommended that intrusive ground investigation works be undertaken to determine the following: • Determine the ground conditions beneath the site, notably the depth of Made Ground, potential obstructions and potential contaminated soils/groundwater; • Determine the geotechnical suitability of the soil materials that are proposed to be reused in the proposed regrading works; • Determine the most economic foundation and floor slab solution for the proposed units; • Probe drilling to investigate potential mineworkings, notably within the south-western area of the site; • Trial trenching/probe drilling to investigate potential unrecorded mine entries, notably within the south-western area of the site; and, • Slope stability assessments for the proposed slopes within the development area.

3.2. Preliminary Ground Investigation Report for the Former Cronton Colliery Site by

Tier Environmental Ltd (Ref: TE1163PGIR1.2 dated 13th August 2020)

Introduction	Tier Environmental was commissioned by db symmetry Ltd to undertake a Preliminary Ground Investigation Report for an area of land referred to as Former Cronton Colliery, located off Fox's Bank Lane, Cronton, L3 5SU (the "Site"). The purpose of the investigation was to undertake ground investigation works to assess the risks to human health and controlled waters from potential contamination on Site, undertake a ground gas risk assessment, determine the preliminary soil waste classification and provide data to assist with foundation and floor slab design.
Site location	The site is located at Former Cronton Colliery Site, Fox's Bank Lane, Cronton, L35 3SU.
Site history	The earliest available OS maps indicate that the site was occupied with agricultural land with pockets of woodland and hedgerows. OS maps from 1925 show that the southern and central areas of the Site were occupied by buildings, railway lines and spoil heaps associated with Cronton Colliery. It is understood that Cronton Colliery was operational between 1913 and 1984. The 2002 OS map indicates the presence of spoil heaps across the southern and eastern



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : 6 of 27

Engineer: Alex Preston

Date: 23/06/2023

	areas of the Site indicating regrading works were undertaken in the southern area of the Site. It is understood that in 1995, the site was partially restored by removing the colliery infrastructure and major earthworks, and then mixing colliery spoil with paper mill crumb and sewage cake to create soils to support woodland planting.
Fieldwork	The investigation, which was supervised by a Tier Environmental Geoenvironmental Engineer, took place between 24th July 2019 and 30th July 2019 and comprised: • The excavation of 17 No. hand excavated pits (WS01 to WS17) to a depth of 1.20m bgl; • The advancement of 17 No. window sample borehole (WS01 to WS17) to depths between 1.83m (WS12) and 6.45m bgl (WS7, WS8); and, • The excavation of 26 No. machine excavated pits (TP01 to TP26) to a maximum depth of 4.5m bgl (TP26). Combined gas and groundwater monitoring wells were installed in exploratory holes WS3 to WS5, WS7 to WS12, WS15 and WS16.
Laboratory testing	Samples of soil, soil leachate and groundwater were submitted for analysis of a range of metal, other inorganic and organic components. Geotechnical testing was scheduled on selected samples. All testing was undertaken at accredited laboratories.
Ground conditions	Made Ground was encountered at all exploratory hole locations from depths between ground level to depths greater than 4.50m bgl. Total Made Ground thickness was highly variable, but it was generally observed to be thinner towards the north of the site. Made Ground generally consisted of colliery spoil amalgamated with some anthropogenic constituents which included brick and coal in the south of the Site. In the northern sections of the Site Made Ground was generally composed of reworked topsoil material consisting of sandy silty loam. Localised areas of demolition rubble were observed within the former footprints of infrastructure related to the colliery. Materials representative of Till Deposits were encountered across the Site. This stratum was encountered as dark brown and light brown slightly sandy gravelly clay or as a gravelly sand. SPT N values achieved within this unit ranged from 4 to 78, indicative of low to very high strength soils. The base of the Till deposits was proven at 4.40m bgl at its deepest extent across the site or at elevations between 32.20m AOD and 37.95m AOD. Bedrock across the majority of the site was observed to be strata from the Pennine Middle Coal Measures Formation with the Kinnerton Sandstone Formation encountered within the east of the site. A north-south trending normal fault is shown to separate the two units on BGS geological maps. The weathered Pennine Middle Coal Measures was encountered as a sandy gravelly clay, whilst the weathered Kinnerton Sandstone Formation was encountered as a slightly gravelly silty sand. Both increased in strength or density with depth. The competent rockhead was encountered between 37.94m AOD and 28.82m AOD, the base of these strata was not encountered. Groundwater observations indicate that there is a perched groundwater body present locally across the site, within the colliery spoil and locally within the Till Deposits. The minimum groundwater level during monitoring to date is 0.26m bgl (21.80m AOD). Seasonal variations in the groundwater level should be anticipated.
Ground stability	It is considered that there should be no particular difficulties in excavating the strata indicated in the boreholes utilising an appropriate and suitably sized mechanical excavator. Excavations into existing Made Ground and the underlying natural strata should be assumed to be unstable given the nature of the ground conditions encountered beneath the Site
Foundations and floor slabs	Due to expected varied ground conditions which will be present post earthworks the foundations appraisals have been conducted separately for each proposed unit (this assessment was based on a 4 No. unit scheme): • Unit 03 – Within the proposed footprint of Unit 03, it is anticipated that approximately 3m of cut in the east and 7m of fill in the western sections of the unit will be required in order to provide adequate development platforms. This unit will therefore require a bespoke foundation solution composing of pad foundations in the east and either a ground improvement solution or piles in the western section of the unit. • Unit 04 - It is considered that the optimum foundation solution for this unit will be reinforced pads (column loads) and strip footings (line loads) placed on vibro stone columns. If vibro stone columns are to be chosen as a foundation solution, this method could involve employing a ground bearing floor slab • Unit 02 - It is considered that pad foundations founded onto the weathered bedrock strata represent the most economic foundation solution for Unit 03. A ground bearing floor laid on the bedrock strata could be implemented within this unit. • Unit 01 - At the time of writing the founding strata under the proposed footprint of Unit 04 is not certain due to a proposed 9m of cut anticipated in this area. If the bedrock strata is found to be at a uniform level across this section of the site, it may be possible for found in the bedrock strata utilising a pad foundation solution with a ground bearing slab. If deeper colliery spoil remains following the cut, VSCs could be locally used.
Sulphate class	Based on the samples tested, a Design Sulphate Class of DS-4 and an ACEC Class of AC-4 should be used for buried concrete structures.
Contamination	Asbestos fibre bundles were identified below the screening level (<0.1%) at 5 No. of the 10 No. samples screened for asbestos. It is therefore considered that colliery spoil, demolition rubble and localised areas of Topsoil at the Site should be regarded as presenting a potential risk to human health with respect to asbestos. Measured concentrations of chromium, nickel and zinc were reported in soil leachate samples taken from within the colliery spoil in excess of EQS Freshwater Values by between the same and 1 No. order of magnitude. Given the presence of colliery spoil to the south of the proposed development site, the absence of a persistent shallow groundwater body, the significant potential for dilution within groundwater at depth, the distance to the closest significant surface water body, Ditton Brook 450m southwest, the low order of magnitude of the exceedances and the



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 7 of 27
Engineer: Alex Preston
Date: 23/06/2023

	fact that leachable concentrations in excess of the respective WQS appear not to be widespread, it is considered that the measured leachate concentrations do <u>not</u> present a significant risk to controlled waters. Marginal EQS exceedances of nickel, zinc and fluoranthene were reported in groundwater samples taken from within the colliery spoil at the Site. These concentrations are considered representative of assumed background groundwater contamination associated with the surrounding areas historical industrial land uses, rather than any former on-Site process or ongoing contamination source. As such, the measured groundwater concentrations on Site are <u>not</u> considered to represent a risk to controlled waters.
Gas protection	In accordance with CIRIA C665, the assessment of these results obtained to date produced a maximum Gas Screening Value of 1.4196 /hr, derived using the maximum recorded carbon dioxide concentration of 15.6%v/v and the maximum peak flow rate of 9.1l/hr. Assessment of this gas screening value alone places the Site in a Characteristic Situation 3 – A moderate risk scenario in accordance with CIRIA C665 for which ground gas protection measures will be required in areas where colliery spoil is to be retained/relocated to or areas in the vicinity of the shallow coal seam.
Radon Requirements	Radon protection measures are not currently required for the proposed development on this site.
Further works	The scope of this report was a preliminary investigation; as such it is recommended that further site investigations are undertaken with a more intensive sampling regime when proposed development levels have been finalised and the relocation of the different cut materials have been confirmed. Some areas of the site were also inaccessible during the site works; these areas of the site should be revisited to avoid any data gaps. It is then likely that some findings of this report may be amended. Investigation of any potential shallow mine working will also be required before any development works in accordance with CIRIA C578. It is likely that to discharge the relevant planning conditions, a remediation strategy and ground gas verification plan report will be required. It may be beneficial to undertake a more detailed fault influence investigation to determine if the fault zone may have any adverse effects on the proposed development. A materials management plan and earthworks specification documents will be required in order to facilitate the large earthworks exercise planned on site.
Waste Soils Classification	Basic waste characterisation has demonstrated that the colliery spoil, demolition rubble and reworked topsoil should be classified as non-hazardous . Further WAC testing will be required to determine if this material can be disposed of to an inert waste landfill. It should be noted that to maximise the sustainability of the proposed redevelopment, it is intended to retain all excavation arisings and cut materials within the site.
Remediation Strategy	Based upon the findings of this preliminary site investigation, the following remediation measures are considered to be required in order to make the Site safe and suitable for the proposed redevelopment: • General site clearance, including hardstanding, vegetation and Topsoil; • Chipping of trees and incorporation into site won Topsoil; • Removal of any below ground relict structures associated with former foundations/basements, notably in the eastern area of the site; • Bulk earthworks to achieve the proposed development levels, with fill materials compacted in accordance with a recognised specification, such as Specification for Highways Works Series 600; • Removal and verification of any previously unidentified areas of contamination, where required; • Backfill of resultant excavations with suitable material; • Installation of hazardous ground gas protection measures in accordance with BS8485: 2015 within affected units; • Laboratory chemical testing and risk assessment of all imported materials; and, • Installation of a 300mm clean cover system in any soft landscaping areas where contaminated Made Ground remains at the surface.

3.3. A Ground Investigation Report for Symmetry Park Merseyside, Huyton by Tier

Environmental Ltd (Ref: TE1163GIR1.4 dated 29th March 2023)

Introduction	Tier Environmental was commissioned by Tritax Symmetry Ltd to undertake a Ground Investigation Report for the Symmetry Park development, located off Fox's Bank Lane, Cronton, L3 5SU (the "Site"). The purpose of the investigation was to undertake further ground investigation works to assess the risks to human health and controlled waters from potential contamination on Site, undertake a ground gas risk assessment and provide data to assist with foundation and floor slab design.
Site location	The site is located at the Former Cronton Colliery Site, Fox's Bank Lane, Cronton, L35 3SU.
Site history	The earliest available OS maps indicate that the site was occupied with agricultural land with pockets of woodland and hedgerows. OS maps from 1925 show that the southern and central areas of the Site were occupied by buildings, railway lines and spoil heaps associated with Cronton Colliery. It is understood that Cronton Colliery was operational between 1913 and 1984. The 2002 OS map indicates the presence of spoil heaps across the southern and eastern areas of the Site indicating regrading works were undertaken in the southern area of the Site. It is understood that in



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : 8 of 27

Engineer: Alex Preston

Date: 23/06/2023

	1995, the site was partially restored by removing the colliery infrastructure and major earthworks, and then mixing colliery spoil with paper mill crumb and sewage cake to create soils to support woodland planting.
Fieldwork	The investigation, which was supervised by a Tier Environmental Geoenvironmental Engineer, took place between 17th August 2020 and 28th August 2020 and comprised: • The excavation of 36 No. hand excavated pits; • Advancement of 17 No. window sample boreholes; • Advancement of 8 No. cable percussive boreholes; • Advancement of 9 No. open hole rotary boreholes; and, • The excavation of 58 No. machine excavated trial pits.
Laboratory testing	Samples of soil, soil leachate, surface water and groundwater were analysed for a range of metal, other inorganic and organic components. Geotechnical testing was scheduled on selected samples. All testing was undertaken at accredited laboratories.
Ground conditions	Made Ground was encountered at all exploratory hole locations from depths between ground level to depths greater than 14.50m bgl. Total Made Ground thickness was highly variable, but it was observed to be thinner in the north of the site. Made Ground generally consisted of colliery spoil amalgamated with some anthropogenic constituents which included brick, rubber, glass, concrete, slag and coal in the south of the Site. In the northern sections of the Site Made Ground was generally composed of reworked topsoil material consisting of sandy silty loam. Some areas within the north contained no Made Ground. Localised areas of demolition rubble were observed within the former footprints of infrastructure related to the colliery. Within the colliery spoil heaps, in the east of the Site very soft grey clayey silt was encountered from between approximately 4.00m bgl and 14.20m bgl. This material is believed to have been excavated from the old colliery settlement ponds and lagoons around the Site and deposited here in 1995. SPT N values within this material ranged from 1 to 7. Materials representative of Till Deposits were encountered across the Site. This stratum was encountered as dark brown and light brown slightly sandy gravelly clay or as a gravelly sand. SPT N values achieved within this unit ranged from 4 to 78, indicative of low to very high strength soils. The base of the Till deposits was proven at 13.40m bgl at its deepest extent across the site or at elevations between 32.20m AOD and 37.95m AOD. Bedrock across the majority of the site was observed to be strata from the Pennine Middle Coal Measures Formation with the Kinnerton Sandstone Formation encountered within the east of the site. A north-south trending normal fault is shown to separate the two units on BGS geological maps. The weathered Pennine Middle Coal Measures was encountered as a sandy gravelly clay, whilst the weathered Kinnerton Sandstone Formation was encountered as a slightly gravelly silty sand. Both increased in strength or density with depth. The competent rockhead was encountered between 37.94m AOD and 20.82m AOD, the base of these strata was not encountered. Groundwater observations indicate that there are perched groundwater bodies present locally across the site, within the colliery spoil and locally within the Till Deposits. The minimum groundwater level during monitoring to date is 0.26m bgl (21.80m AOD). Seasonal variations in the groundwater level should be anticipated.
Ground stability	The western area of the site is considered to be at risk from unrecorded shallow mining. Evidence of unrecorded workings was encountered within 10 No. out of 42 No. deep boreholes undertaken throughout all historic investigations taken place at the Site. In the central and western areas of the Site multiple boreholes encountered either broken ground, voids, no core return, a change in flush, a loss of flush or extremely weak strata. All are highly indicative of unrecorded mineworkings. <u>Drilling and grouting proof stabilisation works will be required underlying the proposed Units 02 and 03.</u> It is considered that there should be no particular difficulties in excavating the strata indicated in the boreholes utilising an appropriate and suitably sized mechanical excavator. Excavations into existing Made Ground and the underlying natural strata should be assumed to be unstable given the nature of the ground conditions encountered beneath the Site
Foundations and floor slabs	Due to expected varied ground conditions which will be present post earthworks the foundations appraisals have been conducted separately for each proposed unit. The optimum foundations solutions for each proposed unit are as follows: • Unit 01 – Excavate all Made Ground to down to bedrock level, lime and/or cement stabilise and re-engineer suitable material to create development platform designing foundations using reinforced perimeter strips or pads and floor slab on a modified raft. • Unit 02- Excavate all Made Ground and Till in the north of the unit to formation level, re-engineer alongside a suitable ground improvement solution such as rigid inclusions. Traditional foundations could then be implemented on the improved soils.
Sulphate class	Based on the samples tested, a Design Sulphate Class of DS-4 and an ACEC Class of AC-4 should be used for buried concrete structures where colliery spoil is to be retained or reused within the site. If concrete is only to come into contact with Till strata a Design Sulphate Class of DS-2 and an ACEC Class of AC-2 may be implemented. If concrete is to come into contact with bedrock strata a Design Sulphate Class of DS-3 and an ACEC Class of AC-3 may be implemented.
Contamination	Localised low level asbestos impacts have been reported that are considered to present a potentially unacceptable risk to human health receptors for a commercial/industrial and public open space / park land use.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : 9 of 27

Engineer: Alex Preston

Date: 23/06/2023

	The dust inhalation pathways associated with asbestos impacted soils may be realised in areas where Made Ground soils remain at the surface (i.e., soft landscaped areas). It is considered that these pathways will be broken in areas of proposed hardstanding and building footprints such that no remediation will be required in those areas. Additional analysis and detailed qualitative risk assessments have undertaken to determine the suitability of the asbestos impacted soils being retained at surface/shallow depth. An asbestos risk assessment report has been conducted alongside this report and is included within Appendix O. In summary, for the proposed end uses it has determined that the asbestos concentrations encountered present a minimal/tolerable risk to future site users. Measured concentrations of chromium, copper, nickel, zinc, anthracene, fluoranthene and benzo(g,h,i)perylene were reported in soil leachate samples in excess of EQS Freshwater Values by between the same and 1 No. order of magnitude. Given the presence of colliery spoil to the north and south of the site, the absence of a persistent shallow groundwater body, the significant potential for dilution within groundwater at depth, the low order of magnitude of the exceedances and the fact that leachable concentrations in excess of the respective WQS appear not to be widespread, it is considered that the measured leachate concentrations do <u>not</u> present a significant risk to controlled waters. Marginal EQS exceedances of cadmium, copper, lead, nickel, zinc, benzo(a)pyrene and fluoranthene were reported in groundwater samples taken at the Site. These concentrations are considered representative of assumed background groundwater quality associated with the surrounding areas historical industrial land uses. As such, the measured groundwater concentrations on Site are <u>not</u> considered to represent a risk to controlled waters.
Gas protection	In accordance with CIRIA C665, the assessment of these results obtained to date produced a maximum Gas Screening Value of 0.3276l/hr, derived using the maximum recorded carbon dioxide concentration of 15.6%v/v and the maximum steady flow rate of 2.1l/hr. Assessment of this gas screening value alone places the Site in a Characteristic Situation 2. A low-risk scenario in accordance with CIRIA C665 for <u>which ground gas protection measures will be required</u>. At the time of writing the final development layout for the site (Units 02 and 03) is still not established in detail, as such the final locations, post earthworks, of differing material types cannot be confidently discerned. Under each of the current proposed units is an area where ground levels need to be increased. To do this may use any material type found across the Site. It is therefore considered prudent, at this stage, to utilise a worst-case scenario from across the entire Site, as undertaken above to adequately protect future end users. Tier Environmental have also considered the risk from the outcropping coal seam and faulting system that underlies the Site, targeting multiple boreholes above these features. After a thorough review of the conceptual site model, gas data to date and development plans Tier Environmental are satisfied that a CS2 scenario across the Site, will adequately protect the proposed development from hazardous ground gases.
Radon Requirements	Radon protection measures are not required at the Site.
Waste Soils Classification	To maximise the sustainability of the development it is envisaged that all materials will be retained and reused at the Site under a Materials Management Plan. If material does have to be removed from Site, a basic waste characterisation has demonstrated that all material has been classified as non-hazardous. Further WAC testing would be required.
Enabling Works	Based upon the findings of this ground investigation, the following enabling works are recommended in order to make the Site safe and suitable for the proposed redevelopment: • General site clearance including hardstanding, vegetation and Topsoil; • Segregation of Topsoil from the different source areas, i.e., agricultural land and paddock, the imported Topsoil within the motocross track and the manufactured Topsoil above the colliery spoil (where it is present); • Chipping of trees and incorporation into site won Topsoil; • Removal of any below ground relict structures associated with former foundations/basements, notably in the eastern area of the site; • Bulk earthworks to achieve the proposed development levels, with fill materials compacted in accordance with a recognised specification, such as Specification for Highways Works Series 600. It would be beneficial for the fill materials beneath Unit 01 (and possibly Units 02 and 03 depending on fill and prevailing weather conditions) to be lime stabilised to minimise the risk of unacceptable total and differential settlements and improve the potential bearing capacity; • Removal and verification of any previously unidentified areas of contamination, where required; • Backfill of resultant excavations with suitable material; • Installation of hazardous ground gas protection measures in accordance with BS8485: 2015 within affected units; • Laboratory chemical testing and risk assessment of all imported materials; and, • Installation of a minimum of 150mm Topsoil to provide a suitable growing medium in any soft landscaping areas. A Materials Management Plan and Ground Gas Verification Plan will be required to set out in detail how the above works are to be carried out and verified. These documents are likely to be required in order to discharge the relevant planning conditions.
Further Works	To aid the development of the Site it is considered that the following works will be required: • A series of drilling and grouting proof stabilisation works within the areas of shallow mineworkings; • Bench trials to identify if lime stabilisation would be suitable, including leachate analysis of the stabilised material; • Settlement Analysis;



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

Page No : 10 of 27

Engineer: Alex Preston

Date: 23/06/2023

- Slope Stability Analysis;
- Ground Gas Verification Plan;
- Materials Management Plan; and,
- Drilling and Grouting Specification.

It is also possible that the ground levels within the shaft compound may need to be reduced by approximately 3m. These works, including the lowering of the vent stacks and construction of new shaft caps, will be agreed with the Coal Authority.



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 11 of 27
Engineer: Alex Preston
Date: 23/06/2023

4. FIELDWORK

The information contained in this report is limited to areas of land accessible during the ground investigation within the Site boundary, as indicated on the Site plan, presented in Appendix A as Drawing No. TE1163-TE-00-XX-DR-GE-002-V01.

Tier Environmental scoped the intrusive ground investigation using guidance presented in:

- BS 10175:2011+A2:2017;
- CIRIA C758D;
- BS 5930:2015+A1:2020; and,
- BS EN 1997:2004 and 2007.

Tier Environmental's standard strata description criteria are compliant with the above guidance.

4.1. Scope of Ground Investigation

The ground investigation was conducted between 20th and 25th April 2023 and was supervised by a suitably qualified Tier Environmental engineer. Table 4.1 below provides a summary of the exploratory holes completed and rationale. Exploratory hole locations are presented on Drawing No. TE1163-TE-00-XX-DR-GE-002-V01.

Table 4.1 Scope of Ground Investigation and Rationale

Exploratory Hole Type	Exploratory Hole Reference	Exploratory Hole Depths (m bgl)	Rationale
Rotary boreholes	RB400 – RB414	30	To confirm the presence of unrecorded shallow mineworkings.

No constraints were encountered during the ground investigation.

Depths and accurate descriptions of strata and groundwater observations made during investigation works, together with details of the samples recovered, are presented on the Engineer's exploratory hole records in Appendix B.



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 12 of 27
Engineer: Alex Preston
Date: 23/06/2023

5. DESK BASED COAL MINING RISK ASSESSMENT

5.1. Previous Investigation

A Coal Mining Risk Assessment Report (CMRA) was produced by Baker Barnett Ltd (Ref. 15/NSB/SB/2572 dated 12th June 2015) on behalf of the Land Trust for the area of the former Cronton Colliery, i.e., the southern area of the proposed development area. The CMRA report is presented in Appendix G.

The Baker Barnett Ltd CMRA concluded:

- Due to the depth and date of the recorded workings that have taken place under the site [Cronton Colliery], we consider that there is no significant risk of coal mining subsidence, from known coal mine workings, affecting the proposed development [as a country park];
- There is a possibility of shallow un-charted coal mine workings being present, from close to the surface of the 3FT seam outcrop, extending some 140m to the southwest of the outcrop;
- Probe drilling was recommended if it is proposed to construct any buildings or structures in the area where shallow workings may be present. The probe drilling should be to a depth of 30m to prove the coal seam and also check for any voids;
- There are no mine shafts or adits recorded on the site other than the 3 no. shafts of the former Cronton Colliery;
- There may be unrecorded mine shafts (bell pits) or adits near the outcrop of the 3FT Seam;
- It was recommended that the ground should be checked visually for anomalies and signs of bell pits, old mine shafts or adits during the topsoil strip and excavations; and,
- Provided the vents remain in place over the 3 No. Coal Authority mine shafts, there should be little or no risk to the proposed development due to methane or carbon dioxide.

5.2. Coal Mining Risk Assessment

Tier Environmental obtained a Consultant Coal Mining Report (Ref. 51001982527001) from the Coal Authority (Appendix H). Extracts of which are provided below.

Historic Mining

The Coal Mining Report identifies 34 No. worked coal seams beneath the site. Seam thicknesses vary from 0.9m to 3.3m and depths range from 85m to 558m below ground level, with the last recorded mining undertaken between the years 1875 and 1962. Pertinent seams include the Rushy Park, the Plodder seam, the Haigh Yard seam, the Wigan Five Feet, the Wigan Four Feet, the Higher Florida, the St Helens Yard, the Crombouke, the Higher Pigeon House and the London Delph. A full table of mine entries found beneath the site is presented in the table below. Based on the anticipated depths and age of the above recorded workings, it is considered that there is a low risk to the development from these deep recorded workings.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 13 of 27
Engineer: Alex Preston
Date: 23/06/2023

The Coal Authority stated that there are potential unrecorded shallow mineworkings beneath the site. The Worsley Four Feet coal seam (named as the 3FT Seam in the Baker Barnett CMRA) is shown to outcrop in the western area of the site, is stated as being a workable seam and has a bearing of 132° at outcrop. It is considered at this stage that there is a high risk to the proposed development in the south-western area of the Site.

No opencast mines or Coal Authority managed tips are recorded by the Coal Authority within 500m of the Site.

Table 5.1 Past Recorded Underground Coal Mining Beneath the Site

Colliery	Seam	Coal Authority	Depth (m)	Dipping rate of seam worked	Dipped direction of seam	Extraction thickness	Year last mined
Unnamed	LONDON DELPH (BIN)	302N	85	13.1	South-West	180	1925
Unnamed	LONDON DELPH (BIN)	302M	94	13.1	South-West	180	1922
Unnamed	ST. HELENS YARD	302X	102	11.3	South-West	90	1931
unnamed	RAMS	3033	128	12.7	South-West	180	1958
Unnamed	HIGHER FLORIDA	3036	132	12.3	South-West	180	1924
unnamed	LOWER FLORIDA	303M	154	13.6	South-West	130	1941
unnamed	HIGHER FLORIDA	3037	154	11.5	South-West	180	1921
CRONTON	CROMBOUKE	302R	166	13.4	South-West	190	1917
unnamed	LONDON DELPH (BIN)	302O	173	12.9	South-West	180	1930
unnamed	HIGHER PIGEON HOUSE (PIGEON HOUSE)	303T	180	8.5	South-West	140	1936
unnamed	CROMBOUKE	302S	183	13.5	South-West	190	1939
unnamed	ST. HELENS YARD	302Y	200	13.4	South-West	90	1937
unnamed	HIGHER FLORIDA	3038	202	15.5	South-West	180	1921
unnamed	HIGHER FLORIDA	3039	224	12.8	South-West	180	1929
CRONTON	HIGHER FLORIDA	3035	224	11.3	South	180	1875
Unnamed	LOWER FLORIDA	303O	266	12.8	South-West	130	1956
unnamed	WIGAN FIVE FEET	303U	267	11.8	South-West	110	1948
Unnamed	WIGAN FOUR FEET	303Z	278	9.9	South-West	170	1944
Unnamed	WIGAN FIVE FEET	303V	300	12.3	South-West	110	1952
unnamed	HAIGH YARD	304F	370	13.7	South-West	120	1949
unnamed	HAIGH YARD	304G	412	12.3	South	120	1930
unnamed	RUSHY PARK	304M	415	10.9	South-West	130	1946
unnamed	RUSHY PARK	304J	423	12.0	South	130	1889
unnamed	PLODDER	304D	430	11.6	South-West	330	1930
unnamed	RUSHY PARK	304L	435	13.4	South-West	130	1896
unnamed	RUSHY PARK	304K	446	12.0	South	130	1896
unnamed	PLODDER	304C	446	11.6	South-West	330	1958
unnamed	HAIGH YARD	304E	448	9.6	South-West	120	1943
unnamed	HAIGH YARD	304H	450	12.3	South	120	1952
unnamed	RUSHY PARK	304N	454	9.6	South-West	130	1939
unnamed	HAIGH YARD	30CJ	465	11.4	South-West	120	1942
Unnamed	RUSHY PARK	304I	483	9.5	South	130	1889
unnamed	RUSHY PARK	30CL	520	11.2	South-West	130	1935
unnamed	RUSHY PARK	30CM	558	9.1	South-West	130	1962



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 14 of 27
Engineer: Alex Preston
Date: 23/06/2023

Mine Entries

A total of 3 No. shaft mine entries are recorded within the Site (347389-001, 347389-002 and 347389-003). The Coal Authority records indicate that shafts 347389-001 and 347389-002 were filled, grouted and capped by the National Coal Board in 1985. The Coal Authority records also state that shaft 347389-003 was filled in September 1969 and later grouted and capped by the National Coal Board in 1985. All three shafts are monitored on a two monthly basis for gas by, or on behalf of, the Coal Authority. It is considered that the risk of these recorded shafts affecting the proposed development is likely to be low.

There is the possibility of unrecorded mine entries within the site, notably in the south-western area associated with the shallow Worsley Four Feet (3FT) seam. It is considered at this stage that there is a moderate/high risk of unrecorded shafts affecting the proposed development within the south-western area of the site.

Opencast Mines

The Coal Authority stated that there are no recorded opencast coal mines within 500 metres of the enquiry boundary.

Investigation and Remedial Works

No remedial or investigative work is recorded by the Coal Authority within 50m of the Site.

Coal Mining Subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Coal Authority Mine Gas Management

Passive vent stacks have been installed within the 3 No. mine entries within the south-eastern area of the site.

5.3. Coal Authority Mine Gas Emission Report

A Mine Gas Emission Report was provided by the Coal Authority. The results show that gas emissions from the mine shafts have decreased during the last 5 No. years. Elevated methane and carbon dioxide was initially observed in all 3 No. shafts but was observed to be stabilised at very low levels during recent years, less than 5%.

5.4. Mine Shaft Data

Tier Environmental has also obtained mineshaft data entry sheets and treatment detail sheets for all 3 No. mine shafts currently present on Site. The records show that all shafts were backfilled with spoil and capped with a reinforced concrete cap.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 15 of 27
Engineer: Alex Preston
Date: 23/06/2023

6. INTRUSIVE COAL MINING RISK ASSESSMENT

Historic third-party exploratory hole logs have been reviewed alongside Tier Environmental data to give a better understanding of prevailing ground conditions and risks from historic mining underlying the Site.

6.1. General

The Coal Authority records indicate that a total of 1 No. coal seam is outcropping at the Site, with a NW-SE strike running through the western area of the Site. It is considered that the risk of unrecorded shallow coal mining subsidence relating to this coal seam is high, with the potential of having an influence at surface for the proposed development.

To mitigate this risk, during 2 No. phases of investigations a series of 23 No. rotary openhole boreholes were undertaken, to a maximum depth of 40m bgl, to identify the nature and extent of any unrecorded shallow coal mining. For the purpose of this investigation, these boreholes were taken to a minimum depth of 30m below ground level in line with industry best practice and providing in excess of 10x seam thickness of bedrock cover, should any worked seams be present in excess of that depth.

The ground investigation was targeted using the proposed layout and prevailing geological conditions underlying the Site. At least one borehole was drilled beneath proposed Units 02 and 03 that overlay shallow coal bearing strata as these are considered to be the most sensitive receptors to ground instability.

6.2. Coal Seams Encountered

A summary of the encountered intact coal seams encountered during all the known investigations for the Site is given in Table 6.1.

Table 6-1 Summary of Observed Coal Seams

Borehole ID	Depth of Coal Seam (m AOD)	Thickness (m)	Observations
1999 Parkman Investigation			
P1/2	25-24.30	0.70	N/A
P1/3	20.85-20.20	0.35	N/A
P1/4	19.90-19.30	0.60	N/A
P1/7	17.40-17.00	0.40	N/A
P2/2	30.16-28.90	0.26	N/A
P2/5	25-24.50	0.50	N/A
P2/7	27-26	1.00	N/A
2003 Soil Mechanics Investigation			
P1/10	11.98-12.40	0.42	N/A
P1/11	15.40-15.85	0.45	N/A
P4/09	19-19.56	0.56	N/A
P4/10	19.4-20.0	0.60	N/A
2020 Tier Environmental			
RB101	21.11-21.51	0.40	N/A
	17.11-16.61	0.50	N/A
RB105	4.80-5.00	0.20	N/A



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 16 of 27
Engineer: Alex Preston
Date: 23/06/2023

Borehole ID	Depth of Coal Seam (m AOD)	Thickness (m)	Observations
TP126	33.23-32.23	1.00	Black bituminous coal
2023 Tier Environmental			
RB401	27.34-26.34	1.00	N/A
RB403	19.69-18.79	1.10	N/A
RB404	28.91-28.11	0.80	N/A
RB407	6.63-6.03	0.60	N/A
RB409	6.26-5.56	0.70	N/A
	13.96-13.76	0.20	N/A
RB410	17.30-16.10	1.20	N/A
RB412	14.08-13.48	0.60	N/A
RB413	23.91-23.01	0.10	N/A

6.3. Evidence of Potential Shallow Mineworkings

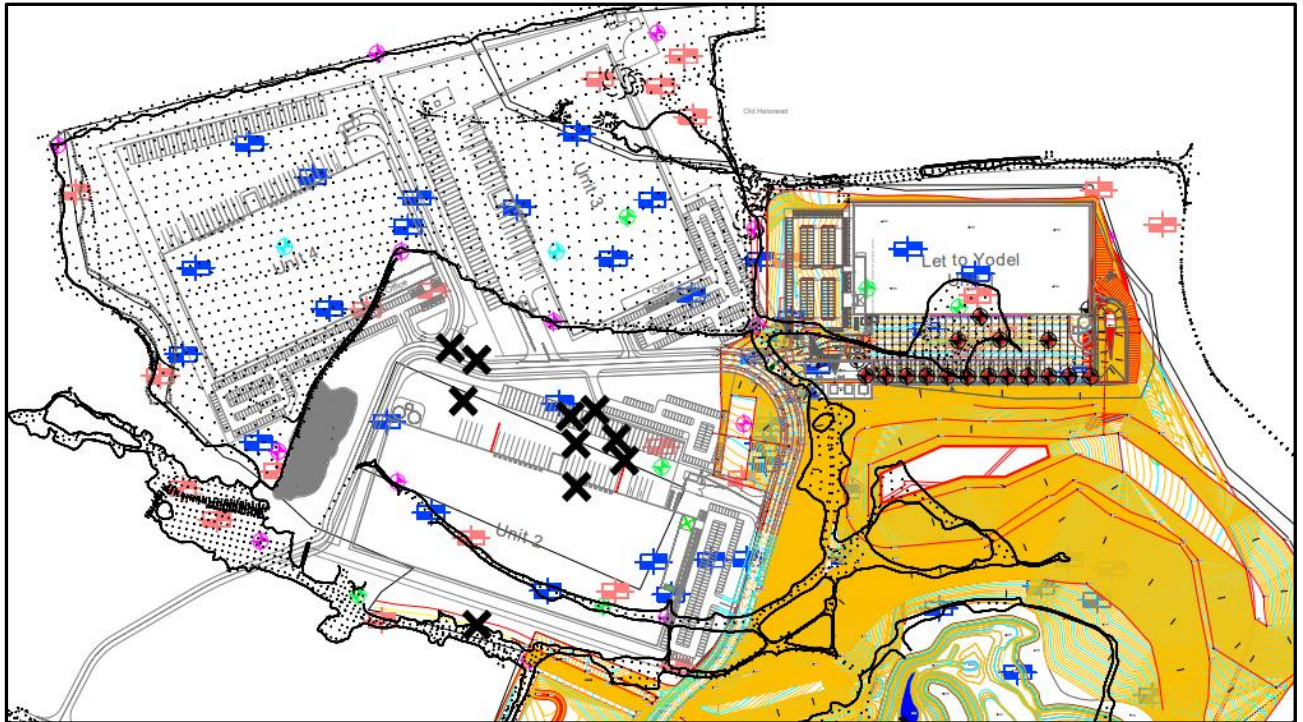
A summary of the evidence of potential shallow mineworkings from known investigations is presented in Table 6.2

Table 6-2 Summary of Mineworkings

Borehole ID	Depth of Coal Seam (m AOD)	Observations
1999 Parkman Investigation		
P1/5	20.10-19.40	Loss of flush
	19.40-17.90	Very loose material
P1/6	22.20-21.00	Change in flush, very dirty returns
P2/1	30.00	Loss of flush
	28.00-27.70	Core barrel drop
	26.00	Borehole caving in
P2/4	30.00-27.00	Void
P2/6	25.00-22.00	Loss of flush
P2/7	26.00-22.00	Mineworkings
P1/10	15.62-16.22	Loss of flush
P2/10	18.00-16.00	No core return
2003 Soil Mechanics Investigation		
P2/13	24.00-25.70	No core return
	13.85-15.00	No core return/ loss of flush
P2/14	6.00-10.00	No core returns/ mineworkings
2023 Tier Environmental Investigation		
RB408	27.60-27.20	Weak, lost 100% flush

Figure 6.1 below highlights the location of the potential mineworkings encountered during all intrusive investigations with an 'X'.

Figure 6-1 Location of encountered mineworkings



6.4. Surface Subsidence

The third-party reports highlight evidence of historic hummocky ground present on site, located west of the mine shafts. This indicates that there was previously some localised subsidence in this area that may be indicative of the presence of bell pits and shallow workings. There was no evidence of surface subsidence encountered during the recent investigations but the likely area of the hummocky ground was covered during the regrading works during the 1990s. These observations may also indicate mounded spoil around bell pits.

Figure 6-2 Historic Aerial Image Showing Potential Hummocky Ground



6.5. Opencast Workings

During all phases of investigations, no evidence of opencast workings have been identified. Localised unrecorded opencast workings may have occurred in the vicinity of the subcrop of the Worsley Four Feet seam.

6.6. Unrecorded Mine Entries

During all phases of investigations, no unrecorded mine shafts have been identified. However, due to the outcropping coal seam, hummocky ground previously identified and the historical extensive coal mining undertaken across the south-western area of the Site, it is considered likely that unrecorded mine entries (bells pits, shafts or adits) are present at the Site.

6.7. Recorded Mineworkings

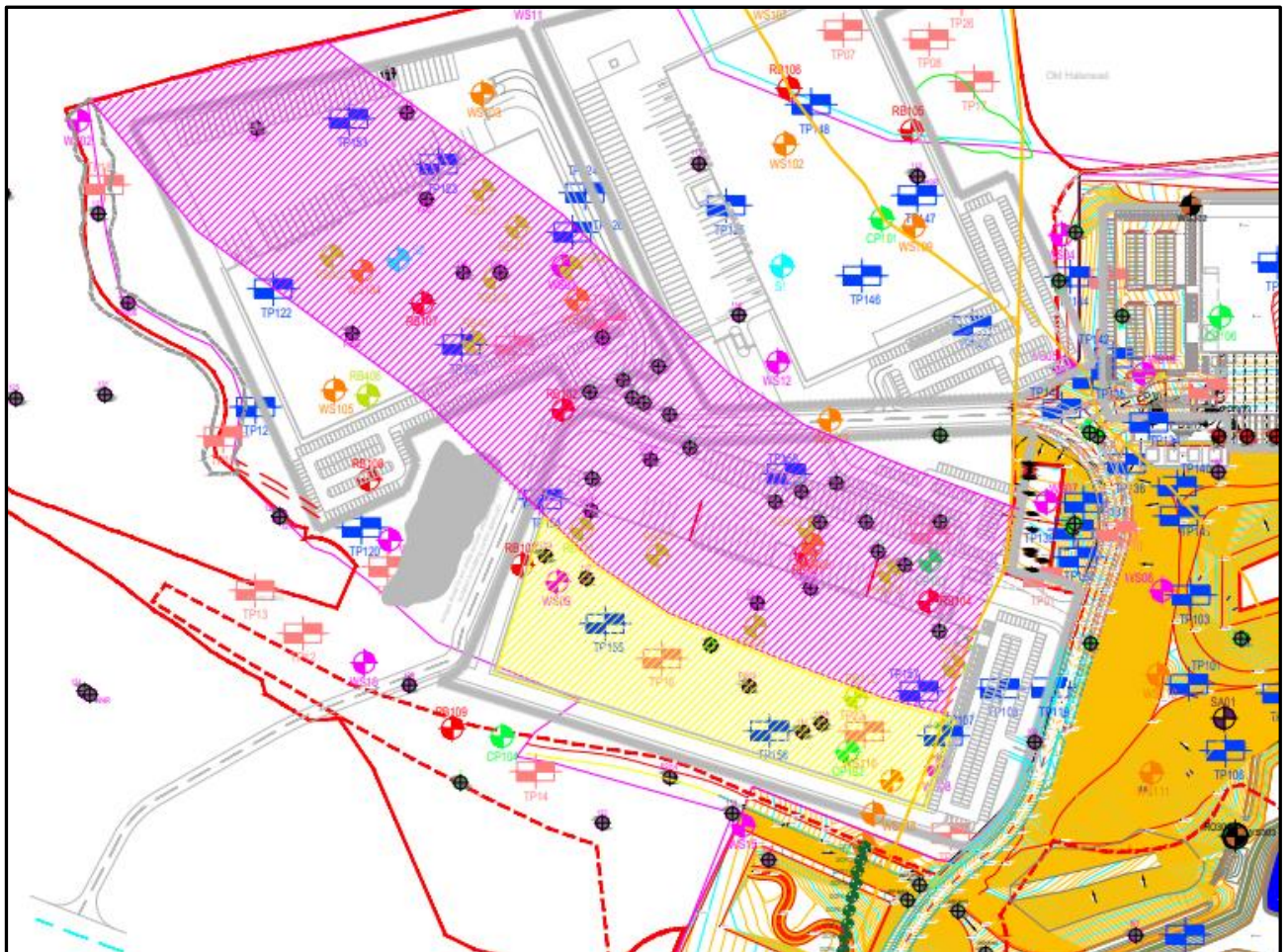
Coal Authority records indicate deeper coal seams (from 85m bgl to 558m bgl) were worked beneath the Site. However, it has been assumed that with the substantial overburden pressure at depths, any consolidation of these workings has already occurred.

CIRIA C758D outlines that void relating to coal extraction are unlikely to migrate more than 10 times seam thickness in bedrock. Whilst this 'rule of thumb' may be considered over-cautious in most circumstances, given the near impossibility in gathering enough data for numerical modeling techniques, it has been decided that it provides a reasonable assurance against surface subsidence at the Site. When applying this method, the seam thickness has only been compared to bedrock cover. In areas where more than one seam is thought to have been extracted, the depth between the seams has been compared to seam thickness. The largest seam thickness abstracted is recorded at 330cm thick; this would mean an adequate overburden of 33m is required. It is therefore considered that the deeper mineworkings do not pose a significant risk to the proposed development.

6.8. Discussion

The Worsley Four Foot coal seam is recorded as dipping towards the south-west with an average dip of 7°. Therefore, the coal seam is present at greater depths in the south and southwest of the Site. It is considered that approximately 100m - 125m south of the inferred seam location that there would be sufficient depth of overburden/bedrock, therefore a low risk of shallow mineworkings affecting the proposed development. As shown on Figure 6.2, the red hatched area represents the parcel of land at greatest risk of surficial subsidence. This is also shown on Drawing No.TE1163-TE-00-XX-DR-GE-002-V01 within Appendix A.

Figure 6-3 Location of approximate area at greatest risk from shallow mineworkings



The western area of the Site is considered to be at risk from potentially unrecorded shallow coal mining. Evidence of unrecorded workings was encountered within 11 No. out of 56 No. boreholes undertaken throughout all investigations at the Site. In the central, southern and western areas of the Site, multiple boreholes encountered either broken ground, voids, no core return, flush change, a loss of flush or extremely weak strata, all are indicative of potential historic mineworkings.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 20 of 27
Engineer: Alex Preston
Date: 23/06/2023

Due to the nature of different types of evidence encountered (voids, loss of flush and weak strata) it is presumed that some of the encountered workings are collapsed whilst some are still intact. The presence of collapsed workings is expected given the workings are likely from pre 1900 (>120 years old). It is considered that the risk of unacceptable settlement or collapse is high in these areas. As a precautionary measure to avoid unacceptable total and differential settlements affecting the proposed development, it is recommended that the area of shallow mineworkings is stabilised by a series of drilling and grouting. These stabilisation works will be outlined in a Specification for the Stabilisation of Shallow Mineworkings document and submitted to the Coal Authority for approval for the necessary permit.

There are no recorded shallow workings, or evidence of unrecorded workings, in the eastern sections of the Site. This area of the Site is underlain by the Kinnerton Sandstone Formation to a maximum proven depth of 20m bgl. It is considered that this section of the Site will not require stabilisation works; **however, proof grouting stabilisation works will be required beneath units 02 and 03.** These works are laid out in a drilling and grouting specification. As the earthworks is progressed an inspection of the Site will be undertaken, to identify any potential unrecorded mine entries.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 21 of 27
Engineer: Alex Preston
Date: 23/06/2023

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. Conclusions

It is considered that the following coal mining activities present potential constraints to the proposed development:

- **Low risk** associated with the recorded mineworkings;
- **High risk** of unrecorded shallow mineworkings;
- **Moderate to high risk** of unrecorded mine entries;
- **Low risk** associated with opencast coal workings;
- **Moderate risk** of hazardous ground gases associated with historic coal mineworkings and the presence of coal seams beneath the Site.
- **Moderate risk** of hazardous ground gas in the vicinity of the coal mine entries.

Due to the presence of shallow workings, **it is considered that the building footprints for units 02 and 04 that will be located within areas of historic shallow mineworkings will require drill and grouting.**

The Site is considered to potentially contain multiple further unrecorded mine entries. The proposals to addressing these features will be addressed in the Coal Mining Stabilisation Specification.



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 22 of 27
Engineer: Alex Preston
Date: 23/06/2023

8. REGULATORY APPROVALS

The conclusions and recommendations presented above are considered reasonable based on the findings of the site investigation. However, these cannot be guaranteed to gain regulatory approval and, therefore, the report should be passed to the appropriate regulatory authorities and/or other organisations for their comment and approval prior to undertaking any works on site.

It is recommended that conditions placed on any planning permission are discharged prior to commencement of site works.

When developing in areas at risk from coal mining, it is important to ensure that Coal Authority permission has been obtained for all aspects of the works. Failure to gain permission from the Coal Authority and/or failure to undertake the proposed development in line with their standards could result in lenders refusing to release funds, or the developer having to provide a security fee against future damage claims. It is also critical that any unidentified mining features encountered during the development are reported, as failure to do so may result in a Stop Notice being served on the works.

8.1. Treatment Works

Several bodies may need to be approached prior to the treatment of the mineworkings. There are particular regulatory requirements of the Coal Authority and Environment Agency that are applicable to remediating, or the consequential effect of treating mine workings. For instance, the Environment Agency has a regulatory policy where grouting may affect groundwater and formal permissions and consultations may be required for the works.

The Coal Authority will need to be consulted to issue a permit for which an appropriate risk assessment will need to be provided for the works. In certain cases, security for liabilities, such as the grouting of old mine workings, may be required.

Where the outcome of treatment will result in liability transfer to a third party (i.e., roads to be adopted by the local authority), then their agreement to the scheme of treatment must be obtained.

On completion of treatment works, a validation report is required to be submitted to the Coal Authority in such detail as the Coal Authority requires. This information will then be available in any future Coal Authority report produced for the Site.

8.2. Development within the Influencing Distance of a Mine Entry

The Coal Authority states that building within the influencing distance of a mine entry will only be permissible when:

- Expert advice allows a suitable engineering design to be developed and agreed to take account of all the relevant safety and environmental risk factors including gas and mine-water.
- The Coal Authority will not be responsible for financial, or maintenance liabilities associated with the design and implementation of the works.
- Appropriate engineering precautions are taken to safeguard the safety of the public and any structure during and following the completion of the works.
- Approval for the works is obtained from The Coal Authority Permissions Service which will also monitor the implementation of the works to ensure public safety.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 23 of 27
Engineer: Alex Preston
Date: 23/06/2023

9. REFERENCES

- BRE BR211 (2015). Radon: Guidance on Protective Measures for New Dwellings. IHS BRE Press, Bracknell.
- BRE SD1 (2005). Concrete in Aggressive Ground. Special Digest 1 (revised edition). IHS BRE Press, Bracknell.
- BRE 414 (2001) Protective measures for housing on gas-contaminated land. BRE.
- BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites - Code of Practice. British Standards Institution, London.
- BS EN 1997-1:2004 Eurocode 7. Geotechnical Design. General Rules. British Standards Institution, London.
- BS EN 1997-2:2007 Eurocode 7. Geotechnical Design. Ground Investigation and Testing. British Standards Institution, London.
- BS5930:2015+A12020 Code of practice for ground investigations BSI
- BS EN ISO 17892-1-12:2018 Geotechnical investigation and testing BSI
- BS EN ISO 14688-1:2018 Geotechnical Investigation and Testing. Identification and Classification of Soil. Identification and Description. British Standards Institution, London.
- BS EN ISO 14688-2:2018 Geotechnical Investigation and Testing. Identification and Classification of Soil. Principles for a Classification. British Standards Institution, London.
- BS EN ISO 14689-1:2018 Geotechnical Investigation and Testing. Identification and Classification of Rock. Identification and Description. British Standards Institution, London.
- BS8485 2015 Code of Practice for the design of protective measures for methane and carbon dioxide ground gases in new buildings. British Standards
- BS85762013 Guidance on investigations for ground gas – permanent gases and volatile organic compounds (VOCs). BSI,
- CIRIA Rep R 97 (2001) Trenching Practice. Report 097, 2nd edition, CIRIA, London.
- CIRIA Rep R 149 (1995a) Protecting Development from Methane. Report 149, CIRIA, London.
- CIRIA Rep R 150 (1995b) Methane Investigation Strategies. Report 150, CIRIA, London.
- CIRIA Rep R 151 (1995c) Interpreting Measurement of Gas in the Ground Report 151, CIRIA, London.
- CIRIA Rep R 152 (1995d) Risk Assessment for Methane and Other Gases from the Ground. Report 152, CIRIA, London.
- CIRIA Rep R 132 (1996) A Guide for Safe Working on Contaminated Sites. Report 132, CIRIA, London.
- CIRIA C552 (2001) Contaminated land risk assessment. A guide to good practice (report no. C552).
- CIRIA C665 (2007) Assessing the risks posed by hazardous gases to buildings CIRIA, London



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 24 of 27
Engineer: Alex Preston
Date: 23/06/2023

CIRIA C748 (2014) Guidance on the use of plastic membranes as VOC barriers, CIRIA, London

CIRIA C735 (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases. CIRIA.

CIRIA C681 (2009) Unexploded ordnance (UXO) A guide for the construction industry (C681)

CIRIA C785 (2019) Unexploded ordnance (UXO) risk management guide for land-based projects (C785)

CIRIA C758D (2019) Abandoned mine workings manual (C758D)

Contaminated Land: Applications in Real Environments (CL:AIRE) (2011) Definition of Waste Code of Practice (version 2).

Department of Environment Food and Rural Affairs (DEFRA) (2012) Environmental Protection Act 1990:Part 2A Contaminated Land Statutory Guidance (report no. PB13735).

Environment Agency (2000) Technical Aspects of Site Investigation. Report P5-065/TR, Environment Agency, Bristol.

Environment Agency (2002) Guidance on Monitoring Landfill Leachate, Groundwater and Surface Water. Report LFTGN02, Environment Agency, Bristol.

Environment Agency (2007) Evaluation of Models for Predicting Plant Uptake of Chemicals from Soil. Report SC050021/SR, Environment Agency, Bristol.

Environment Agency (2006) Remedial Targets Methodology - Hydrogeological Risk Assessment for Land Contamination (report no.ea/br/e/std/vr10thanni).

Environment Agency (2008) Science Report SC050021/SR7 Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values.

Environment agency, 2007. Inter-laboratory comparison of in vitro bioaccessibility measurements for arsenic lead and nickel in soil, Science Report SC040060/SR2.

Environment Agency, 2009 Human health toxicological assessment of contaminants in soil (Science Report Final SC050021/SR2)

Environment Agency (2015) Guidance on the Classification and Assessment of Waste Technical Guidance WM3 (1st edition).European Union (1998) Drinking Water Directive (Council Directive 98/83/EC).

Gibbons, R. (1994) Statistical Methods for Groundwater Monitoring. Wiley, New York.

Groundsure Report 2021 GSIP-2021-10752-4061

Highways Agency (2006) Design of Pavement Foundations. Document HD 25/IAN 73/06.

HSE (1991) Protection of Workers and the General Public During the Development of Contaminated Land. HMSO, London.

HSE (2005) Occupational Exposure Limits. HSE report EH40/2005, HMSO, London.



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 25 of 27
Engineer: Alex Preston
Date: 23/06/2023

ICRCL (1986) Notes on the Fire Hazards of Contaminated Land. Guidance Note 61/84, 2nd Edition, Interdepartmental Committee on the Redevelopment of Contaminated Land, London.

Jeffries, J.(2009). A review of body weight and height data used within the Contaminated Land Exposure Assessment model (CLEA). Project SC050021/ Technical Review 1. Bristol: Environment Agency

Land Contamination Risk Management (LCRM) Environment Agency October 2020 <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm> .

LQM/CIEH Ltd (2015) S4ULs for Human Health Risk Assessment. Land Quality Press, Nottingham.

NHBC (2007) Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present (report no .04).

NRA (1994) Protocol for a Leaching Test to Assess the Leaching Potential for Soils from Contaminated Sites. R&D Note 181.

SoBRA (2017) Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater – Version 1.0.

The Water Framework Directive, (Standards and Classification) Directions (England and Wales).

UK Water Industry Research (2010) Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (report no. 10/WM/03/21)

WHO (2000) Air Quality Guidelines for Europe. 2nd edition, WHO Regional Office for Europe, Copenhagen.

World Health Organisation (2017) Guidelines for Drinking Water Quality (4th edition).

Britain From Above - <https://britainfromabove.org.uk/en/image/WPW060399>

<http://www.warstateandsociety.com/Bombing-Britain>

<https://www.epa.gov/pfas/basic-information-pfas>

UK Maps of Radon, <http://www.ukradon.org/information/ukmaps>

Health and Safety Executive (2015) Construction (Design and Management) Regulations.

Coal Authority Interactive Map Viewer, <http://mapapps2.bgs.ac.uk/coalauthority/home.html>

BGS Geology of Britain Viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>



SUPPLEMENTARY GROUND INVESTIGATION AND COAL MINING RISK ASSESSMENT REPORT FOR SYMMETRY PARK, MERSEYSIDE

Report No : TE1163-TE-00-XX-RP-GE-003-V01
Page No : 26 of 27
Engineer: Alex Preston
Date: 23/06/2023

10.GLOSSARY OF TERMS

ACEC	Aggressive Chemical Environment for Concrete (classification)
aOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
Designated location	Site (and the ecosystem on that site) protected under national or international legislation. A potential ecological receptor to be considered as part of the assessment of land contamination. Example designated locations include SSSIs (q.v.), SACs (q.v.), national nature reserves, Ramsar sites and bird special protection areas.
DQA	Data Quality Assessment
DQO	Data Quality Objective
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
K _{ow}	Octanol-water partition coefficient
LEL	Lower Explosive Limit
LL	Liquid Limit
LoD	Limit of Detection (analytical)
LoQ	Limit of Quantification (analytical)
Mean Value Test	Statistical test (described in the CIEH Guidance) to estimate the mean value of a normally distributed population of data at a given level of confidence. Normally for contaminated land assessment, the 95th percentile (referred to as the 95%UCL or US95) is applied as a reasonable but conservative estimate of the mean concentration for comparison with the relevant assessment criteria.
Maximum Value Test	Statistical test (described in the CIEH Guidance) to identify whether an elevated concentration within a normally distributed data set forms part of the underlying population from which it has been sampled or whether it is an outlier (such as a localised area of contamination) that merits further consideration.
MC	Moisture Content
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)
OS	Ordnance Survey
PI	Plasticity Index
PID	Photoionisation Detector
PL	Plastic Limit
ppm	Parts per million
ppmv	Parts per million by volume
QA	Quality Assurance
QC	Quality Control
SAC	Special Area of Conservation
SOM	Soil Organic Matter



**SUPPLEMENTARY GROUND INVESTIGATION
AND COAL MINING RISK ASSESSMENT REPORT
FOR SYMMETRY PARK, MERSEYSIDE**

Report No : TE1163-TE-00-XX-RP-GE-003-V01

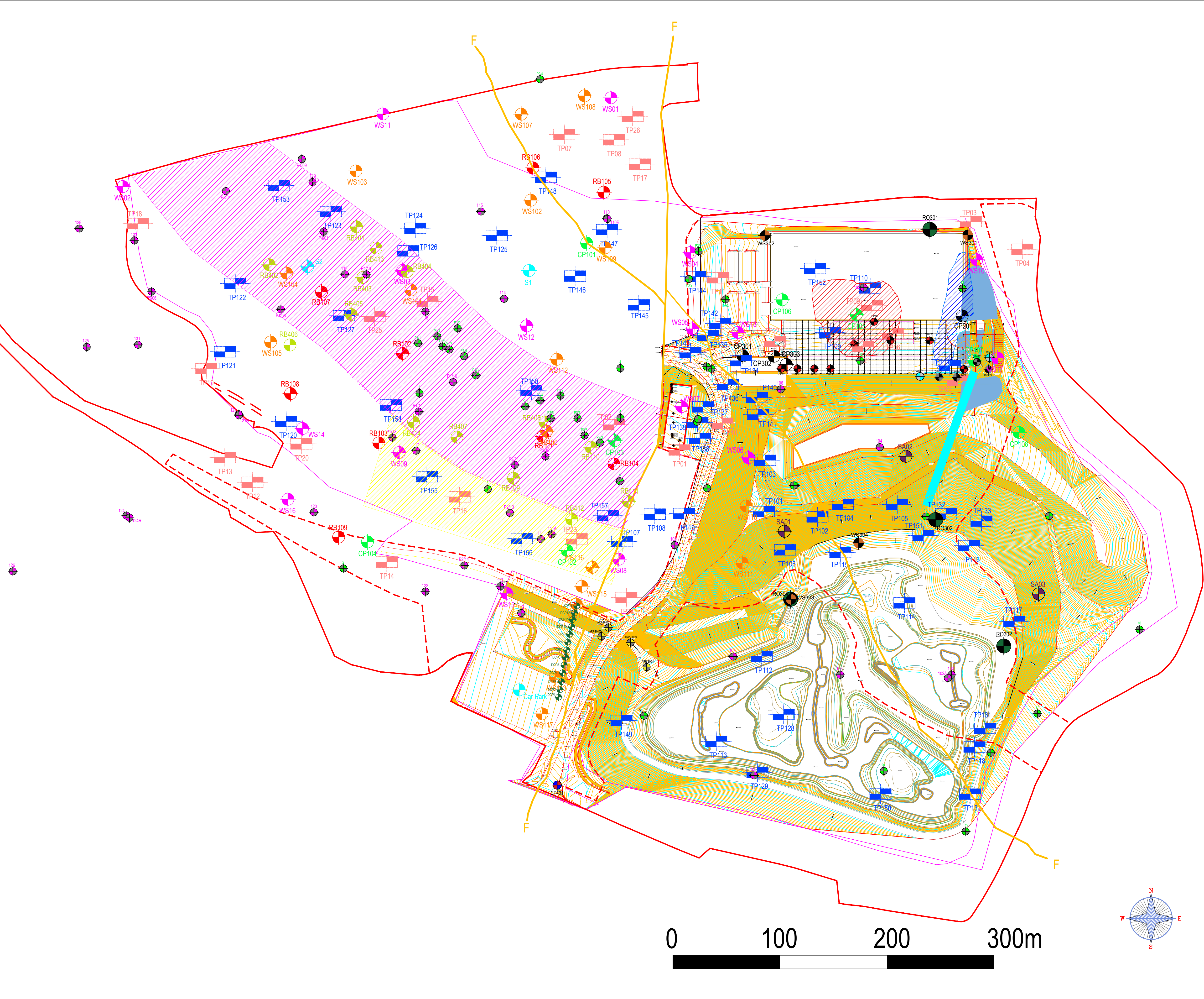
Page No : 27 of 27

Engineer: Alex Preston

Date: 23/06/2023

SPT	Standard Penetration Test
SPZ	Source Protection Zone (see Error! Reference source not found.)
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest
SVOC	Semi-Volatile Organic Compound
TEF	Toxicity Equivalent Factor
TPH	Total Petroleum Hydrocarbons
TWA	Time Weighted Average
US95	95 th percentile estimate of the true mean value of a data population (also known as 95%UCL).
VOC	Volatile Organic Compound

APPENDIX A - DRAWINGS



DO NOT SCALE

TIER

NOTES

1999 LOCATIONS:

PARMAN ROTARY CORE LOCATIONS

2003 LOCATIONS:

SOIL MECHANICS ROTARY CORE LOCATIONS

2019 LOCATIONS:

WINDOW SAMPLE LOCATION

TRIAL PIT LOCATION

2020 LOCATIONS:

TRIAL PIT LOCATION

ROTARY BOREHOLE LOCATION

WINDOW SAMPLE LOCATION

CABLE PERCUSSIVE LOCATION

SAMPLE LOCATION

DOP LOCATIONS

2022 LOCATIONS:

CABLE BOREHOLE LOCATION

DP LOCATION

WINDOW SAMPLE LOCATION

CABLE PERCUSSIVE LOCATION

ROTARY OPENHOLE LOCATION

2023 LOCATIONS:

DP LOCATION

WINDOW SAMPLE LOCATION

CABLE PERCUSSIVE LOCATION

ARUP LOCATION

ROTARY BOREHOLE LOCATION

HISTORIC COLLIERY SETTLEMENT LAGOON

SILT REMOVED

SILT REMOVED

APPROXIMATE AREA THAT REQUIRES DRILL AND GROUTING

REQUIRED CONFIRMATORY BOREHOLES TO ESTABLISH ADEQUATE COVER IS PRESENT

DRAINAGE RUN

FAULT - APPROXIMATE LOCATION

WORSLEY FOUR FEET COAL SEAM

UNNAMED INFERRED COAL SEAM

P1	03/08/2023	CS	ISSUED FOR INFORMATION	AP	AP
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS:

PRELIMINARY

TIER CONSULT

Tier Environmental Ltd.
Chadwick House
Warrington Road
Birchwood
Warrington | WA3 6AE
t: 01925 818388

CLIENT:

DB SYMMETRY

PROJECT:

FORMER CRONTON COLLIERY

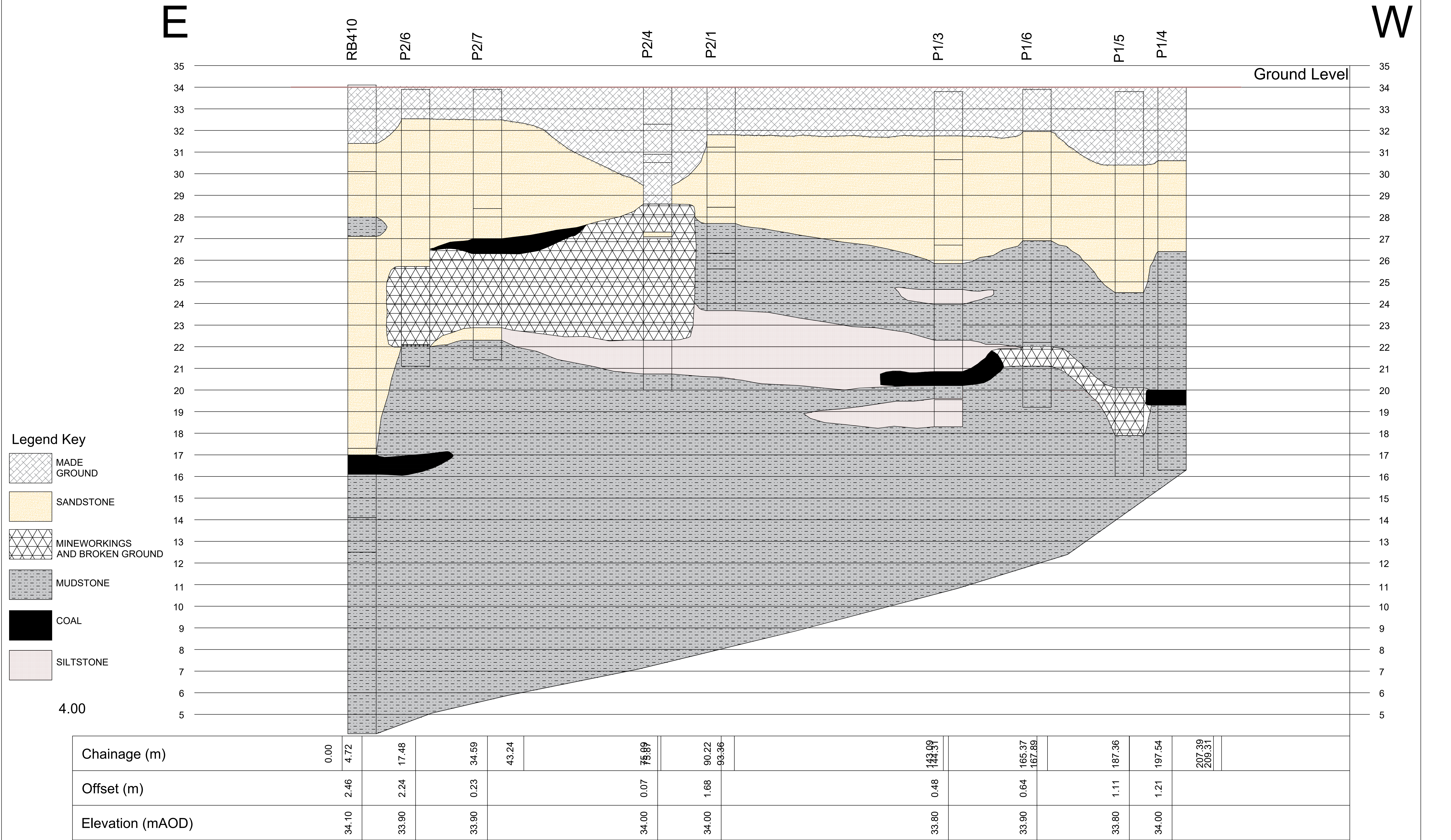
TITLE:

SITE WIDE PLAN

SCALE: 1:1000	CHECKED: AP	APPROVED: AP
CAD FILE: -	DESIGN/DRAWN: CS	DATE: 03.08.2023
PROJECT No: TE1163	DRAWING No: TE1163-TE-00-XX-DR-GE-019-V01	REV: P1

Project Id: TE1163
Project Title: Symmetry Park, Huyton
Location: Cronton
Client: Tritax Symmetry

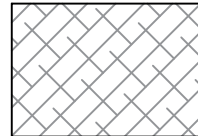
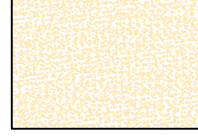
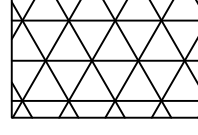
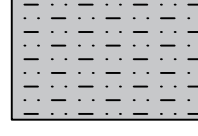
Title: Section line 1
Vertical Scale: 1:114
Horizontal Scale: 1:587
Engineer: Alex Preston

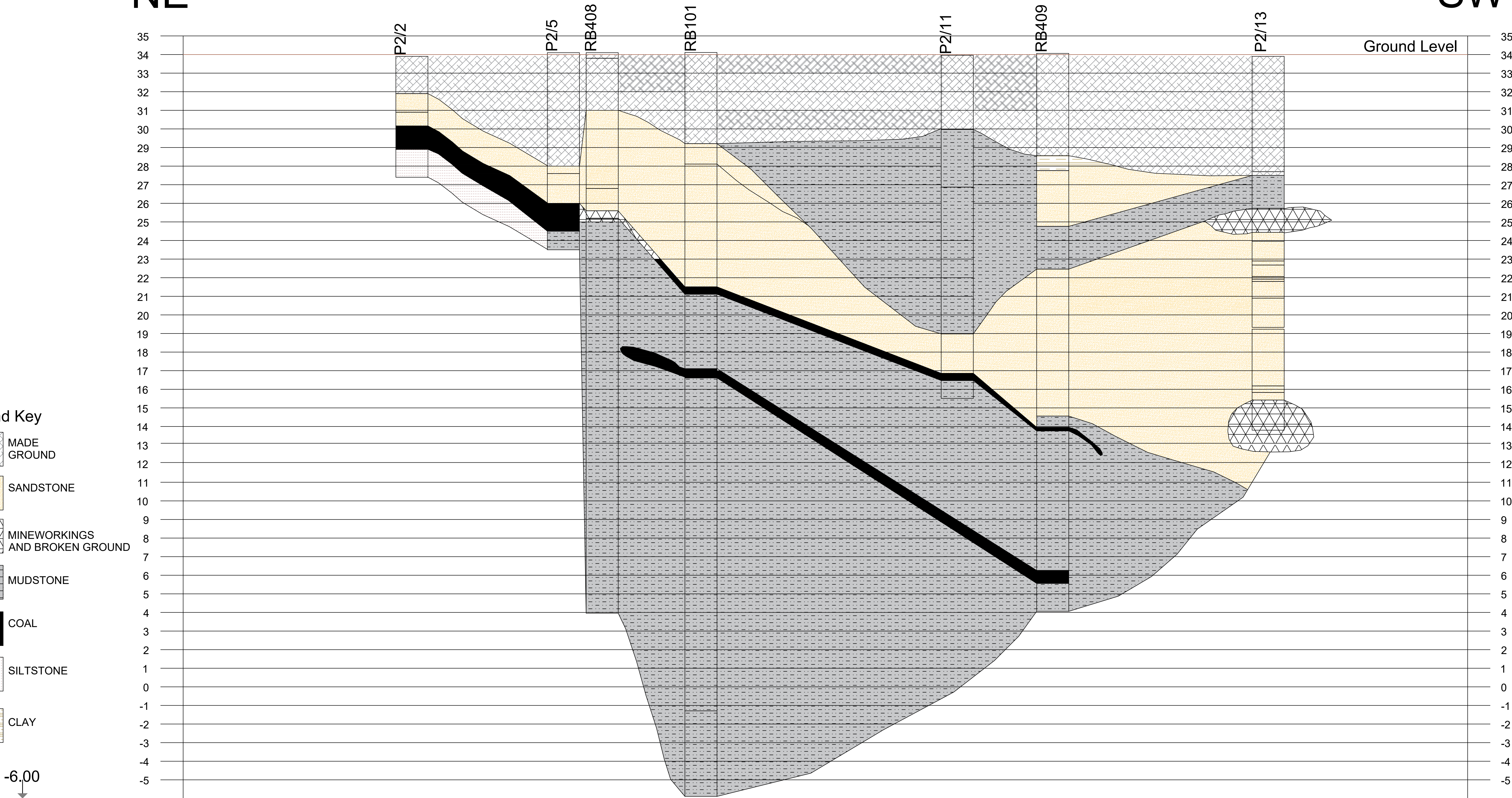


NE

SW

Legend Key

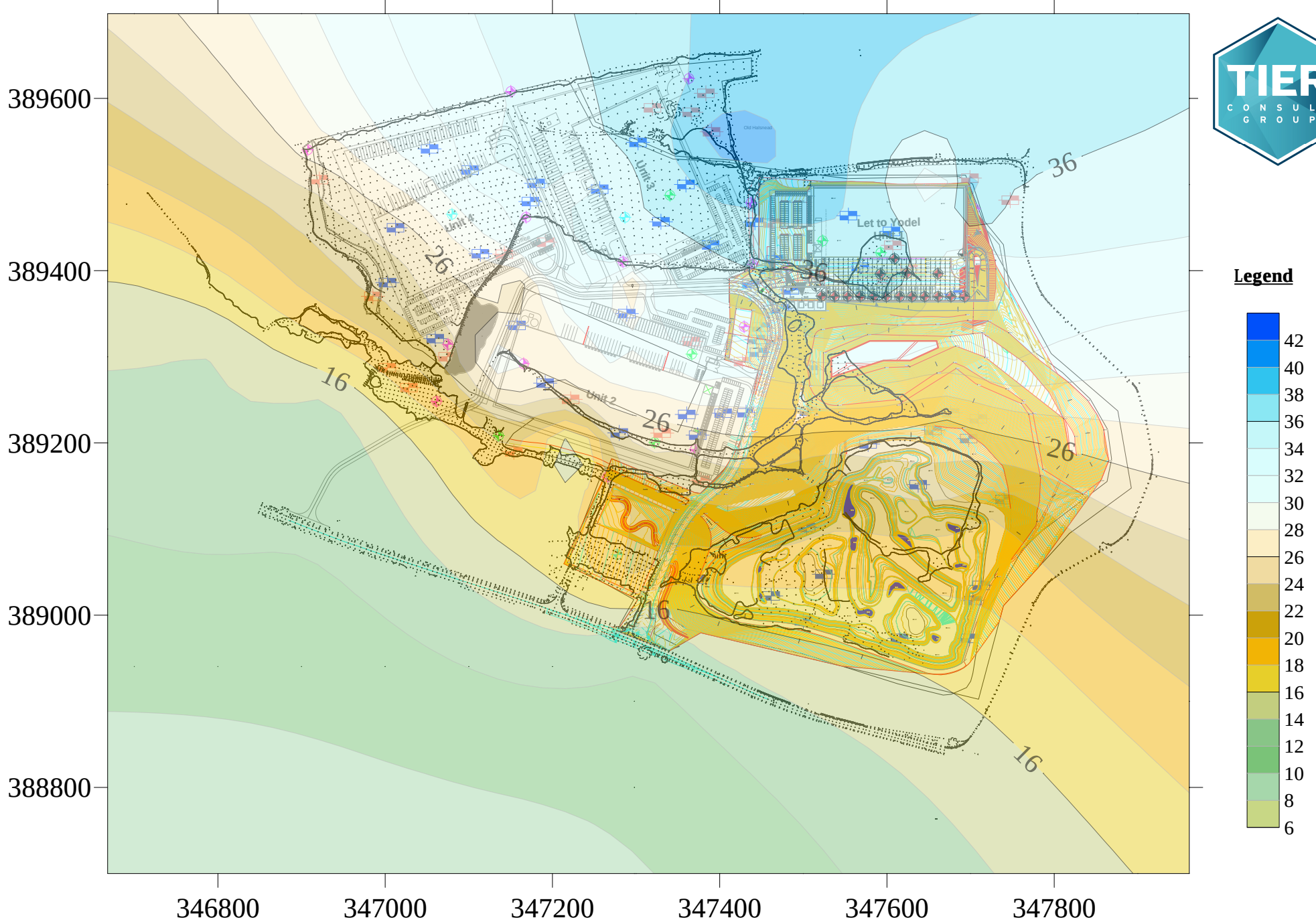
- MADE GROUND
- SANDSTONE
- MINEWORKINGS AND BROKEN GROUND
- MUDSTONE
- COAL
- SILTSTONE
- CLAY



Chainage (m)	0.00	12.71	35.57	41.43 43.30	56.33	62.90	95.00 97.11	109.40	117.80	141.91	149.98
Offset (m)		1.47	1.92	0.67	0.06		0.96	0.34		1.16	
Elevation (mAOD)		33.90	34.10	34.10	34.11		33.96	34.06		33.90	

Drawing Title: Depth To Rockhead

Drawn by: AP Checked: SL
Drawing No. TE1163-TE-00-XX-DR-GE-004-V01
Date: 18.05.23

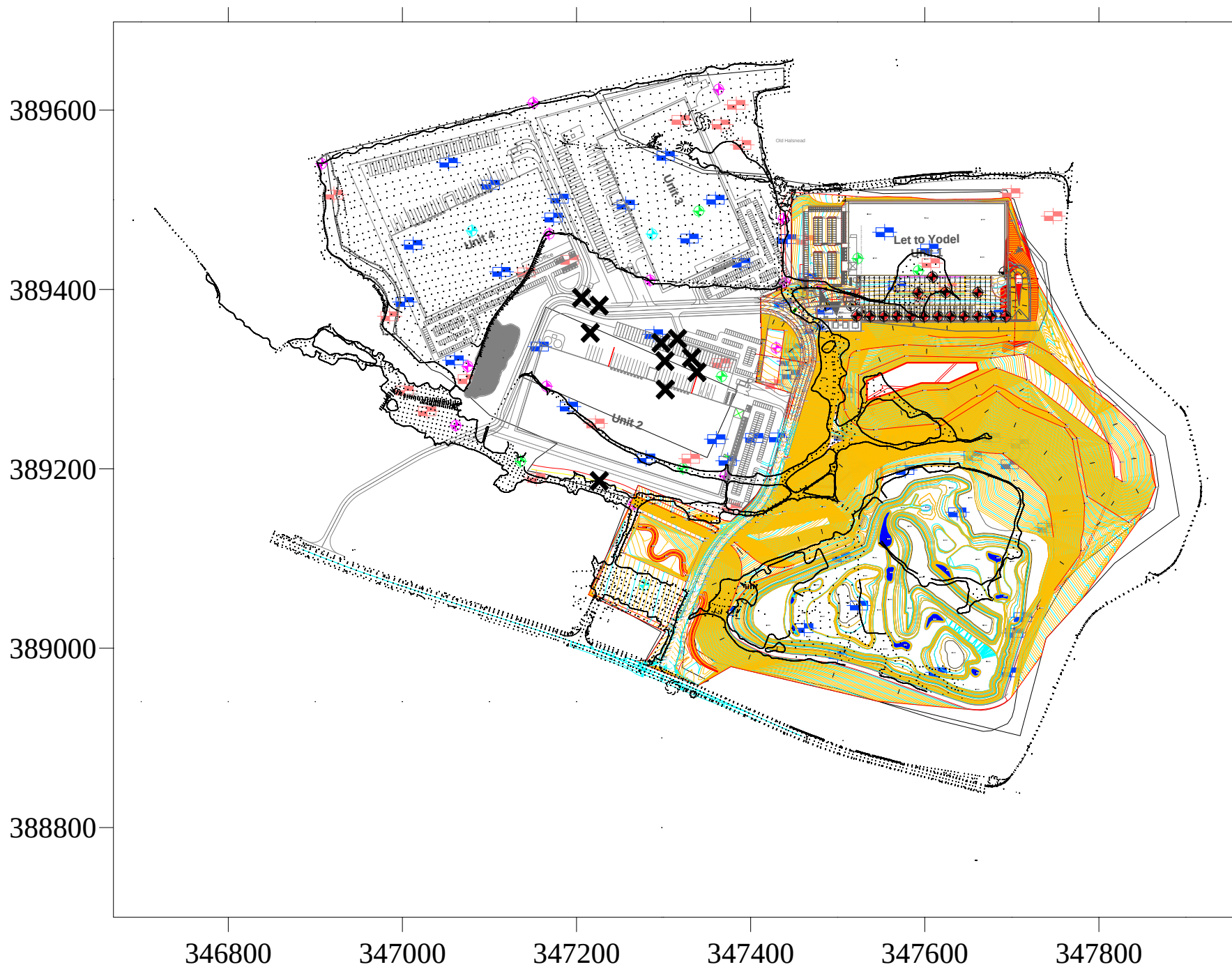


Drawing Title: Extent of Mineworkings

Drawn by: AP Checked: SL

Drawing No. TE1163-TE-00-XX-DR-GE-005-V01

Date: 18.05.23

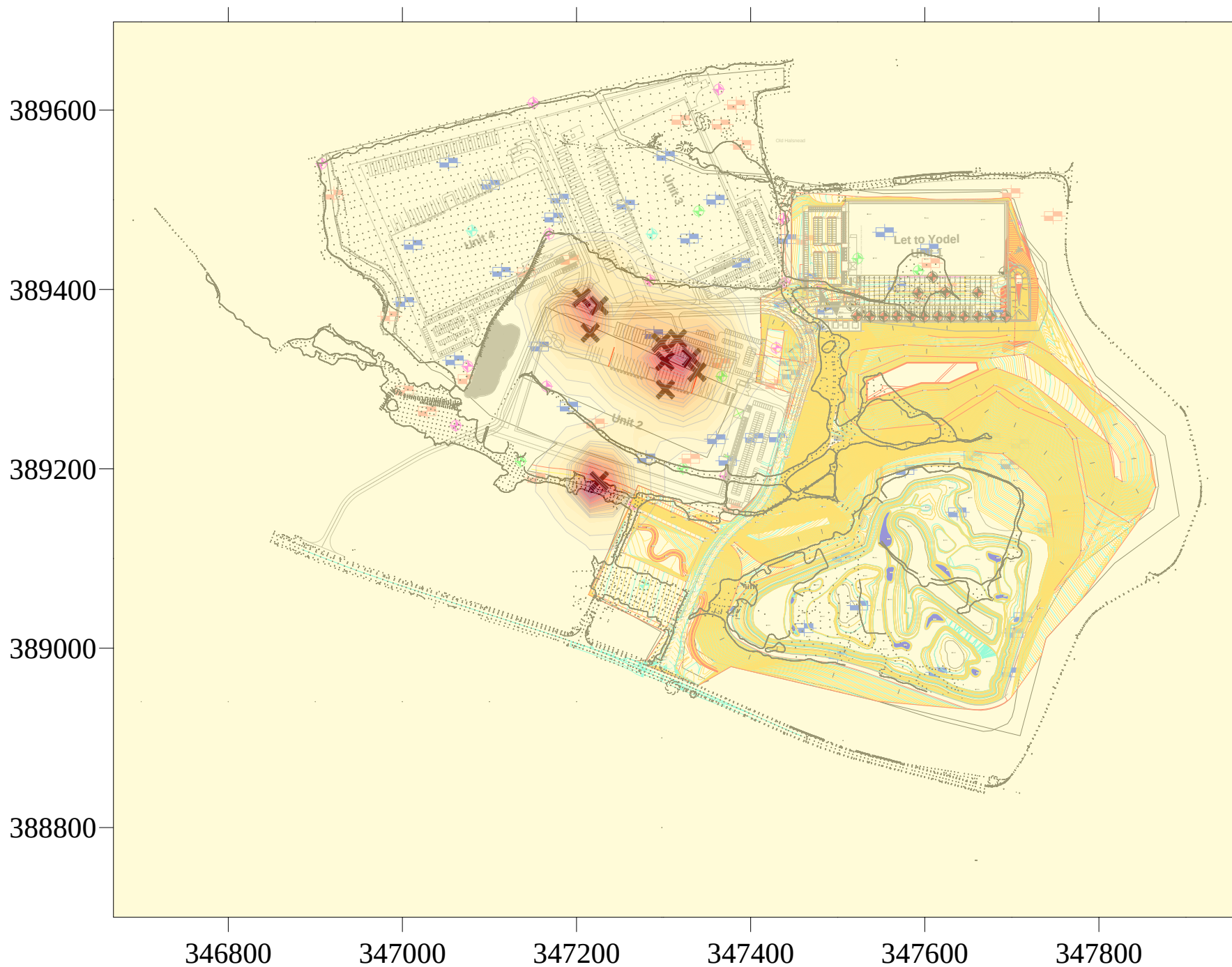


Drawing Title: Extent of Mineworkings

Drawn by: AP Checked: SL

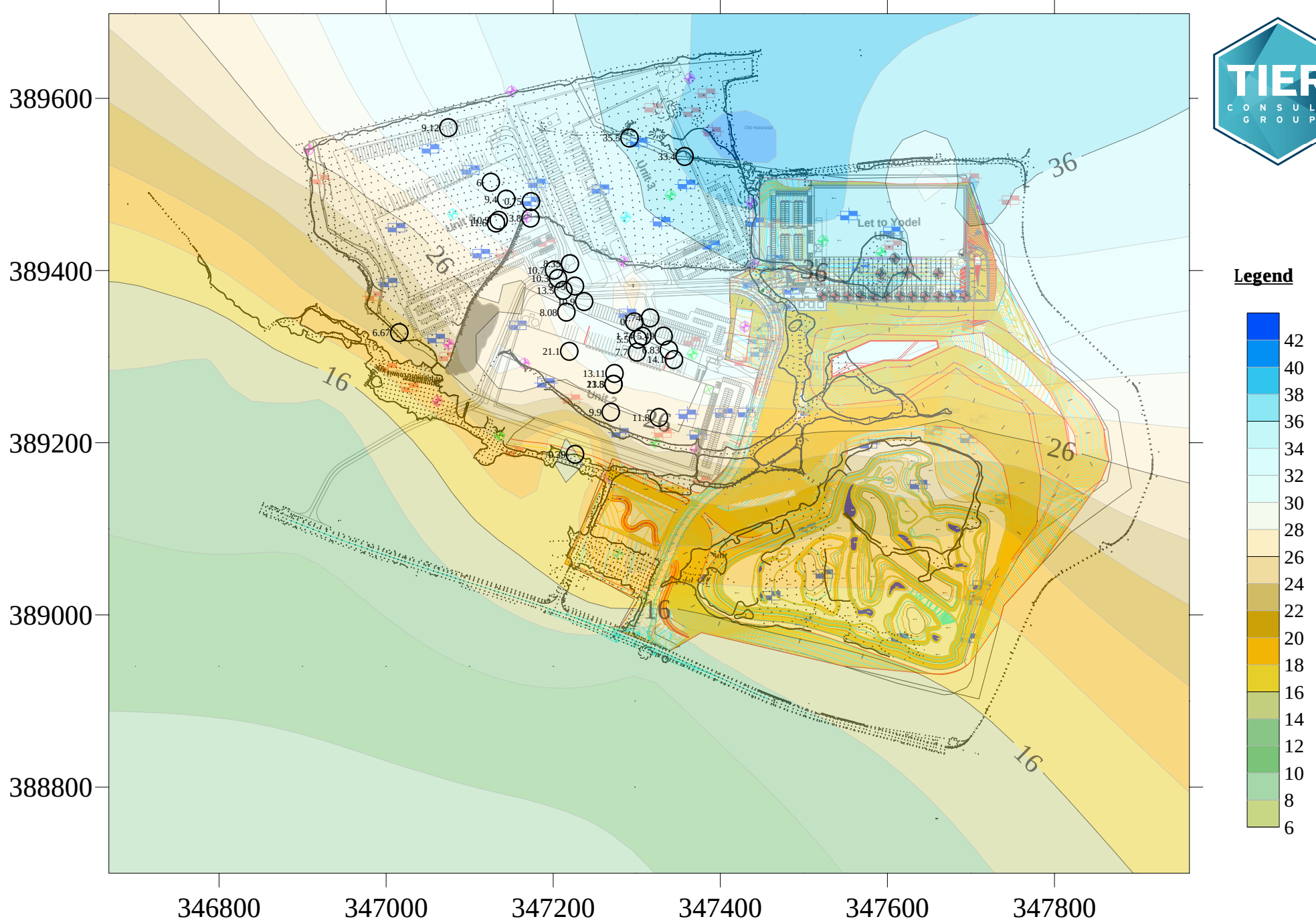
Drawing No. TE1163-TE-00-XX-DR-GE-006-V01

Date: 18.05.23



Drawing Title:Overlying Rock Above Coal

Drawn by: AP Checked: SL
Drawing No. TE1163-TE-00-XX-DR-GE-007-V01
Date: 18.05.23



APPENDIX B - EXPLORATORY HOLE LOGS



Rotary Core Log

Borehole No.

RB401

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347125.30 - 389502.60

Hole Type
RO

Location: Cronton

Level: 34.14

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.40	33.74		MADE GROUND: FILL MADE GROUND	
							0.80	33.34		Reddish brown CLAY TILL	
										Reddish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	1
											2
											3
							4.50	29.64		Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	4
											5
							5.60	28.54		Black SHALE PENNINE MIDDLE COAL MEASURES	6
							6.70 6.80	27.44 27.34		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES COAL WORSLEY FOUR FEET COAL SEAM	7
							7.80	26.34		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB401

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347125.30 - 389502.60

Hole Type
RO

Location: Cronton

Level: 34.14

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

[illegible]

Remarks





Rotary Core Log

Borehole No.

RB401

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347125.30 - 389502.60

Hole Type
RO

Location: Cronton

Level: 34.14

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							26.00	8.14		Black SHALE PENNINE MIDDLE COAL MEASURES	21 22 23 24 25 26 27 28 29 30
							28.30	5.84		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	
							30.00	4.14		End of borehole at 30.00 m	

Remarks





Rotary Core Log

Borehole No.

RB402

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347043.50 - 389467.50

Hole Type
RO

Location: Cronton

Level: 29.87

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.40	29.47		MADE GROUND: FILL MADE GROUND	
										Reddish brown CLAY TILL	1
							2.40	27.47			2
										Reddish brown, SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							4.80	25.07			4
										Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	5
							6.80	23.07			6
										Reddish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	7
							8.10	21.77			8
										Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB402

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347043.50 - 389467.50

Hole Type
RO

Location: Cronton

Level: 29.87

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB402

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347043.50 - 389467.50

Hole Type
RO

Location: Cronton

Level: 29.87

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							22.40	7.47			21
											22
										Black SHALE PENNINE MIDDLE COAL MEASURES	23
							24.20	5.67			24
										Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	25
											26
											27
											28
							28.70	1.17		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	29
							30.00	-0.13			30
										End of borehole at 30.00 m	

Remarks





Rotary Core Log

Borehole No.

RB403

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347131.50 - 389455.20

Hole Type
RO

Location: Cronton

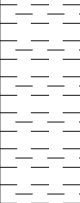
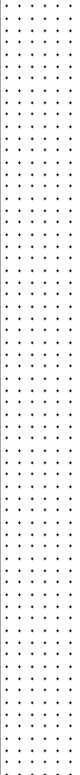
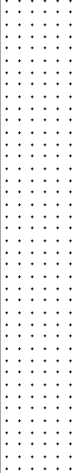
Level: 32.69

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.40	31.29		Reddish brown CLAY TILL	1
										Reddish brown and yellow SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							3				
							4				
							5				
							6				
							6.60	26.09			7
											8
							9				
							9.80	22.89			10
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

RB403

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347131.50 - 389455.20

Hole Type
RO

Location: Cronton

Level: 32.69

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							13.00	19.69		PENNINE MIDDLE COAL MEASURES	11
											12
											13
							13.90	18.79		COAL WORSLEY FOUR FEET COAL SEAM	14
										Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	15
											16
											17
											18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB403

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347131.50 - 389455.20

Hole Type
RO

Location: Cronton

Level:	32.69
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											21
											22
											23
											24
											25
											26
											27
											28
											29
							30.00	2.69		End of borehole at 30.00 m	30

Remarks





Rotary Core Log

Borehole No.

RB404

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347172.80 - 389460.90

Hole Type
RO

Location: Cronton

Level: 34.01

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	33.81		MADE GROUND: Fill	
										MADE GROUND Reddish brown CLAY	
							1.30	32.71		Black Shale	1
										PENNINE MIDDLE COAL MEASURES	2
							4.00	30.01		Grey MUDSTONE	4
										PENNINE MIDDLE COAL MEASURES	5
							5.10	28.91		Black COAL	
										WORSLEY FOUR FEET COAL SEAM	
							5.90	28.11		Grey and Brown MUDSTONE	6
										PENNINE MIDDLE COAL MEASURES	7
											8
											9
											10

Continued on next sheet

Remarks

1) No groundwater encountered 2) Cased to 1.5m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth.



**RB404**

Project Name: Symmetry Park, Huyton

Co-ords: 347172.80 - 389460.90

Location: Cronton

Level:	34.01
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

[illegible]

Remarks

1) No groundwater encountered 2) Cased to 1.5m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth.





Borehole No.

RB404

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347172.80 - 389460.90

Hole Type	RO
-----------	----

Location: Cronton

Level: 34.01

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											21
											22
											23
											24
											25
											26
											27
											28
											29
							30.00	4.01		End of borehole at 30.00 m	30

Remarks
1) No groundwater encountered 2) Cased to 1.5m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB405

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347119.70 - 389422.30

Hole Type
RO

Location: Cronton

Level: 30.24

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.30	29.94		MADE GROUND: FILL MADE GROUND	
							1.00	29.24		Reddish brown CLAY TILL	1
										Reddish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	2
											3
											4
											5
							5.80	24.44		Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB405

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347119.70 - 389422.30

Hole Type
RO

Location: Cronton

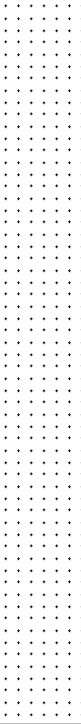
Level: 30.24

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							14.80	15.44			11
										Black SHALE PENNINE MIDDLE COAL MEASURES	15
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB405

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347119.70 - 389422.30

Hole Type
RO

Location: Cronton

Level: 30.24

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							22.50	7.74			21
											22
										Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	23
											24
											25
											26
											27
											28
											29
							30.00	0.24		End of borehole at 30.00 m	30

Remarks





Rotary Core Log

Borehole No.

RB406

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347062.50 - 389393.10

Hole Type
RO

Location: Cronton

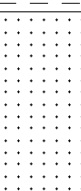
Level: 27.16

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.50	26.66		MADE GROUND: FILL MADE GROUND	
							1.90	25.26		Reddish brown CLAY TILL	1
							3.10	24.06		Reddish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	2
										Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	3
											4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB406

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347062.50 - 389393.10

Hole Type
RO

Location: Cronton

Level: 27.16

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description									
				TCR	SCR	RQD													
							17.60	9.56											
										Grey SANDSTONE PENNINE MIDDLE COAL MEASURES									
										Continued on next sheet									

Remarks





Rotary Core Log

Borehole No.

RB406

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347062.50 - 389393.10

Hole Type
RO

Location: Cronton

Level: 27.16

Scale
1:50

Client: Tritax Symmetry

Dates: 24/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							24.30	2.86			21
											22
											23
											24
							25.30	1.86		Black SHALE PENNINE MIDDLE COAL MEASURES	25
							25.80	1.36		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	26
										Black SHALE PENNINE MIDDLE COAL MEASURES	27
											28
											29
							30.00	-2.84			30

End of borehole at 30.00 m

Remarks





Rotary Core Log

Borehole No.

RB407

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347219.20 - 389306.20

Hole Type
RO

Location: Cronton

Level: 33.93

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Fill MADE GROUND	
							5.70	28.23			
							6.20	27.73		Reddish brown CLAY TILL	
										Yellowish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	
							9.10	24.83		Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	
										Continued on next sheet	

Remarks

1) No groundwater encountered 2) Cased to 6.50m with 6" casing 3) Descriptions from drillers logs 4) Terminated at target depth.





Borehole No.

RB407

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347219.20 - 389306.20

Hole Type
RO

Location: Cronton

Level: 33.93

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											11
											12
											13
											14
											15
											16
											17
											18
							18.88	15.05		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	19
							19.50	14.43		Black Shale PENNINE MIDDLE COAL MEASURES	20
Continued on next sheet											

Remarks

1) No groundwater encountered 2) Cased to 6.50m with 6" casing 3) Descriptions from drillers logs 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB407

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347219.20 - 389306.20

Hole Type
RO

Location: Cronton

Level: 33.93

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							22.00	11.93		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	21
											22
											23
											24
											25
											26
											27
							27.30	6.63		Black COAL PENNINE MIDDLE COAL MEASURES	
							27.90	6.03		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	28
											29
							30.00	3.93		End of borehole at 30.00 m	30

Remarks

1) No groundwater encountered 2) Cased to 6.50m with 6" casing 3) Descriptions from drillers logs 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB408

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347301.50 - 389320.20

Hole Type
RO

Location: Cronton

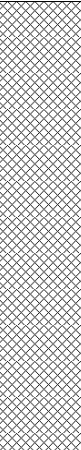
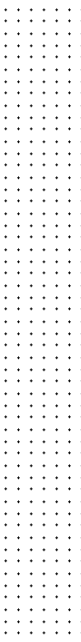
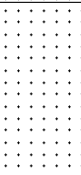
Level: 34.10

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.00	31.10		MADE GROUND: Fill MADE GROUND	1
										Yellowish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							7.30	26.80		Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							8.50	25.60		Weak, lost flush MINEWORKINGS	4
							8.90	25.20		Firm drilling no recovery PENNINE MIDDLE COAL MEASURES	5
										Continued on next sheet	6

Remarks

1) No groundwater encountered 2) Cased to 1.5m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth.





RB408

Project Name: Symmetry Park, Huyton

Co-ords: 347301.50 - 389320.20

Location: Cronton

Level: 34.10

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

[illegible]

Continued on next sheet

1) No groundwater encountered 2) Cased to 1.5m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth.





Borehole No.

RB408

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347301.50 - 389320.20

Hole Type	RO
-----------	----

Location: Cronton

Level: 34.10

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

[illegible]

Remarks

1) No groundwater encountered 2) Cased to 1.5m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB409

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347272.10 - 389267.90

Hole Type
RO

Location: Cronton

Level: 34.06

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Fill MADE GROUND	
							5.50	28.56			
							6.30	27.76		Reddish brown CLAY TILL	
										Yellowish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	
							9.30	24.76		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	
										Continued on next sheet	

Remarks

1) Groundwater encountered at 17.10m bgl. 2) Cased to 5.50m with 6" casing. 3) Descriptions from drillers logs. 4) Terminated at target depth.



**RB409**

Hole Type
RO

Logged By
ER

Co-ords: 347272.10 - 389267.90

Level:	34.06
--------	-------

Dates: 20/04/2023 -

Remarks
1) Groundwater encountered at 17.10m bgl. 2) Cased to 5.50m with 6" casing. 3) Descriptions from drillers logs. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB409

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347272.10 - 389267.90

Hole Type
RO

Location: Cronton

Level: 34.06

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							20.10	13.96		Black COAL	
							20.30	13.76		PENNINE MIDDLE COAL MEASURES	
										Grey MUDSTONE	
										PENNINE MIDDLE COAL MEASURES	
											21
											22
											23
											24
											25
											26
											27
							27.80	6.26		Black COAL	
										WORSLEY FOUR FEET COAL SEAM	
							28.50	5.56		Grey MUDSTONE	
										PENNINE MIDDLE COAL MEASURES	
											29
							30.00	4.06			30
										End of borehole at 30.00 m	

Remarks

1) Groundwater encountered at 17.10m bgl. 2) Cased to 5.50m with 6" casing. 3) Descriptions from drillers logs. 4) Terminated at target depth.





RB410

Hole Type
RO

Scale
1:50

Logged By
ER

Co-ords: 347344.50 - 389296.60

Level: 34.10

Dates: 20/04/2023 -

Remarks										Continued on next sheet
1) Groundwater encountered at 8.50m 2) Cased to 3m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth										





Borehole No.

RB410

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347344.50 - 389296.60

Hole Type
RO

Location: Cronton

Level: 34.10

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											11
											12
											13
											14
											15
											16
							16.80	17.30			17
							18.00	16.10		Black COAL WORSLEY FOUR FEET COAL SEAM	18
										Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	19
							20.00	14.10			20
Continued on next sheet											

Remarks

1) Groundwater encountered at 8.50m 2) Cased to 3m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth





Rotary Core Log

Borehole No.

RB410

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347344.50 - 389296.60

Hole Type
RO

Location: Cronton

Level: 34.10

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							21.60	12.50		Brown MUDSTONE PENNINE MIDDLE COAL MEASURES	21
										Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	22
											23
											24
											25
											26
											27
							28.10	6.00		Brown MUDSTONE PENNINE MIDDLE COAL MEASURES	28
											29
							30.00	4.10		End of borehole at 30.00 m	30

Remarks

1) Groundwater encountered at 8.50m 2) Cased to 3m with 6" casing 3) Descriptions from drillers logs. 4) Terminated at target depth





Rotary Core Log

Borehole No.

RB411

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347379.20 - 389246.10

Hole Type
RO

Location: Cronton

Level: 34.07

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Fill MADE GROUND	
											1
											2
											3
											4
											5
							5.80	28.27			
							6.00	28.07		Reddish brown CLAY TILL	6
										Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	
											7
											8
											9
											10

Continued on next sheet

Remarks

1) No groundwater encountered 2) Cased to 6m with 6" casing. 3) Descriptions from drillers logs. 4) Terminated at target depth.





Borehole No.

RB411

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347379.20 - 389246.10

Hole Type
RO

Location: Cronton

Level: 34.07

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

[illegible]

Continued on next sheet

Remarks

1) No groundwater encountered 2) Cased to 6m with 6" casing. 3) Descriptions from drillers logs. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB411

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347379.20 - 389246.10

Hole Type
RO

Location: Cronton

Level: 34.07

Scale
1:50

Client: Tritax Symmetry

Dates: 21/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							24.00	10.07			21
											22
											23
											24
										Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	25
											26
											27
											28
											29
							30.00	4.07		End of borehole at 30.00 m	30

Remarks

1) No groundwater encountered 2) Cased to 6m with 6" casing. 3) Descriptions from drillers logs. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB412

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347326.50 - 389229.40

Hole Type
RO

Location: Cronton

Level: 34.18

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							6.50	27.68		MADE GROUND: Fill MADE GROUND	1
											2
											3
											4
											5
											6
							6.50	27.68		Reddish brown CLAY TILL	7
							8.30	25.88		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	8
											9
											10

Continued on next sheet

Remarks

1) No groundwater encountered 2) Cased to 6.5m with 6" casing. 3) Descriptions from drillers log. 4) Terminated at target depth.





Borehole No.

RB412

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347326.50 - 389229.40

Hole Type	RO
-----------	----

Location: Cronton

Level: 34.18

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

[illegible]

Continued on next sheet

Remarks

1) No groundwater encountered 2) Cased to 6.5m with 6" casing. 3) Descriptions from drillers log. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB412

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347326.50 - 389229.40

Hole Type
RO

Location: Cronton

Level: 34.18

Scale
1:50

Client: Tritax Symmetry

Dates: 20/04/2023 -

Logged By
ER

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							20.10	14.08		Black COAL WORSLEY FOUR FEET COAL SEAM	
							20.70	13.48		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	21
											22
											23
							23.80	10.38		Brown MUDSTONE PENNINE MIDDLE COAL MEASURES	24
											25
							25.50	8.68		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	26
											27
											28
											29
							30.00	4.18		End of borehole at 30.00 m	30

Remarks

1) No groundwater encountered 2) Cased to 6.5m with 6" casing. 3) Descriptions from drillers log. 4) Terminated at target depth.





Rotary Core Log

Borehole No.

RB413

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347143.78 - 389482.91

Hole Type
RO

Location: Cronton

Level: 32.69

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.50	32.19		MADE GROUND: FILL	
							0.70	31.99		MADE GROUND	
										Reddish brown CLAY	
										TILL	
										Reddish brown SANDSTONE	1
										PENNINE MIDDLE COAL MEASURES	
											2
											3
											4
											5
											6
							6.80	25.89		Grey SANDSTONE	7
										PENNINE MIDDLE COAL MEASURES	
							7.30	25.39		Black SHALE	
										PENNINE MIDDLE COAL MEASURES	8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB413

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347143.78 - 389482.91

Hole Type
RO

Location: Cronton

Level: 32.69

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.10	22.59		COAL WORSLEY FOUR FEET COAL SEAM	
							11.00	21.69		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	11
											12
											13
											14
											15
											16
											17
											18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB413

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347143.78 - 389482.91

Hole Type
RO

Location: Cronton

Level:	32.69
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											21
											22
											23
											24
											25
											26
											27
											28
											29
							30.00	2.69		End of borehole at 30.00 m	30

Remarks





Rotary Core Log

Borehole No.

RB414

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347178.78 - 389320.41

Hole Type
RO

Location: Cronton

Level: 33.93

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: FILL MADE GROUND	
											1
											2
											3
											4
											5
							5.80	28.13			
							6.00	27.93		Grey SANDSTONE PENNINE MIDDLE COAL MEASURES Reddish brown SANDSTONE PENNINE MIDDLE COAL MEASURES	6
											7
											8
											9
							9.60	24.33		Grey SANDSTONE PENNINE MIDDLE COAL MEASURES	10
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

RB414

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347178.78 - 389320.41

Hole Type
RO

Location: Cronton

Level: 33.93

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

RB414

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347178.78 - 389320.41

Hole Type
RO

Location: Cronton

Level: 33.93

Scale
1:50

Client: Tritax Symmetry

Dates: 25/04/2023 -

Logged By
AP

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							22.00	11.93		Black SHALE PENNINE MIDDLE COAL MEASURES	21
											22
											23
											24
											25
											26
											27
							28.20	5.73		Grey MUDSTONE PENNINE MIDDLE COAL MEASURES	28
											29
							30.00	3.93		End of borehole at 30.00 m	30

Remarks





Rotary Core Log

Borehole No.

P1/1

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.00 - 389394.00

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Colliery Spoil MADE GROUND	1
							3.50	30.40			2
							3.80	30.10		CLAY TILL	3
										SANDSTONE PENNINE MIDDLE COAL MEASURES	4
							5.45	28.45		SANDSTONE PENNINE MIDDLE COAL MEASURES	5
							6.30	27.60		SANDSTONE PENNINE MIDDLE COAL MEASURES	6
							6.92	26.98		SANDSTONE PENNINE MIDDLE COAL MEASURES	7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P1/1

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.00 - 389394.00

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							12.45	21.45			11
										MUDSTONE PENNINE MIDDLE COAL MEASURES	12
											13
											14
											15
											16
											17
							18.20	15.70			18
										End of borehole at 18.20 m	19
											20

Remarks





Rotary Core Log

Borehole No.

P1/10

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347215.75 - 389351.71

Hole Type
RO

Location: Cronton

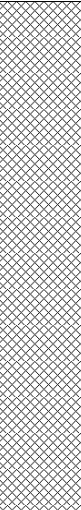
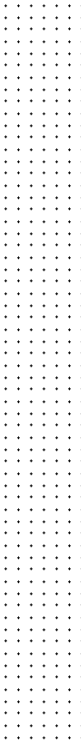
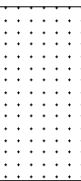
Level: 34.02

Scale
1:50

Client: Tritax Symmetry

Dates: -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.40	30.62		MADE GROUND: Colliery Waste MADE GROUND	1
							3.90	30.12		CLAY TILL	2
										SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							8.85	25.17		SANDSTONE PENNINE MIDDLE COAL MEASURES	4
										Continued on next sheet	5

Remarks





Rotary Core Log

Borehole No.

P1/10

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347215.75 - 389351.71

Hole Type
RO

Location: Cronton

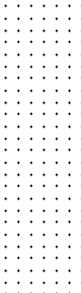
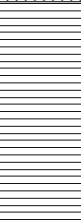
Level: 34.02

Scale
1:50

Client: Tritax Symmetry

Dates: -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.98 12.08	22.04 21.94			11
										COAL	12
										SILTSTONE PENNINE MIDDLE COAL MEASURES	13
										MADE GROUND: MINE WORKINGS MADE GROUND	14
							17.80 18.40	16.22 15.62		MUDSTONE PENNINE MIDDLE COAL MEASURES	15
							19.90	14.12		End of borehole at 19.90 m	16

Remarks





P1/11

Hole Type
RC

Scale
1:20

Logged By

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 2 of 8

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.43 - 389330.00

Hole Type
RC

Location: Cronton

Level:	33.98
--------	-------

Scale
1:20

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 3 of 8

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.43 - 389330.00

Hole Type
RC

Location: Cronton

Level: 33.98

Scale
1:20

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							8.02	25.96		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							8.40	25.58		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							10.82	23.16		MUDSTONE PENNINE MIDDLE COAL MEASURES	
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 4 of 8

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.43 - 389330.00

Hole Type
RC

Location: Cronton

Level: 33.98

Scale
1:20

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 5 of 8

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.43 - 389330.00

Hole Type
RC

Location: Cronton

Level: 33.98

Scale
1:20

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 6 of 8

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.43 - 389330.00

Hole Type
RC

Location: Cronton

Level: 33.98

Scale
1:20

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 7 of 8

Project Name: Symmetry Park, Huyton	Project No. TE1163	Co-ords: 347183.43 - 389330.00	Hole Type RC
Location: Cronton		Level: 33.98	Scale 1:20
Client: Tritax Symmetry		Dates: 01/08/2003 -	Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							24.27	9.71		MUDSTONE PENNINE MIDDLE COAL MEASURES	25
							26.77	7.21		MUDSTONE PENNINE MIDDLE COAL MEASURES	27
										Continued on next sheet	28

Remarks





Rotary Core Log

Borehole No.

P1/11

Sheet 8 of 8

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347183.43 - 389330.00

Hole Type
RC

Location: Cronton

Level: 33.98

Scale
1:20

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/13

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347159.01 - 389305.87

Hole Type
RO

Location: Cronton

Level: 34.08

Scale
1:50

Client: Tritax Symmetry

Dates: 06/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							6.20	27.88		MADE GROUND: COLLIERY WASTE MADE GROUND	1
											2
											3
											4
											5
											6
										MADE GROUND: CLAY MADE GROUND	7
											8
							9.10	24.98			9
							9.30	24.78		CLAY TILL	
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P1/13

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347159.01 - 389305.87

Hole Type
RO

Location: Cronton

Level: 34.08

Scale
1:50

Client: Tritax Symmetry

Dates: 06/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.45	23.63			
										SANDSTONE PENNINE MIDDLE COAL MEASURES	11
							11.90	22.18		SANDSTONE PENNINE MIDDLE COAL MEASURES	12
											13
											14
							16.06	18.02		SANDSTONE PENNINE MIDDLE COAL MEASURES	16
							16.47	17.61		SANDSTONE PENNINE MIDDLE COAL MEASURES	17
											18
							18.60	15.48		SANDSTONE PENNINE MIDDLE COAL MEASURES	19
							19.13	14.95		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							19.93	14.15			20
										Continued on next sheet	

Remarks





Rotary Core Log

Borehole No.

P1/13

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347159.01 - 389305.87

Hole Type
RO

Location: Cronton

Level:	34.08
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 06/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/2

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347220.00 - 389408.00

Hole Type
RO

Location: Cronton

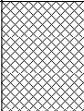
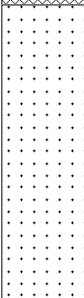
Level: 33.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.75	33.05		MADE GROUND: Colliery Fill MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
							2.70	31.10		MUDSTONE PENNINE MIDDLE COAL MEASURES	3
									3.55	30.25	
							5.45	28.35			
									9.10	24.70	
								COAL			
								MUDSTONE			
								PENNINE MIDDLE COAL MEASURES			
							Continued on next sheet				

Remarks





P1/2

Project Name: Symmetry Park, Huyton

Co-ords: 347220.00 - 389408.00

Location: Cronton

Level:	33.80
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Remarks





Rotary Core Log

Borehole No.

P1/3

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347237.00 - 389364.00

Hole Type
RO

Location: Cronton

Level: 33.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							2.05	31.75		MADE GROUND: Colliery Fill MADE GROUND	1
							3.15	30.65		SANDSTONE PENNINE MIDDLE COAL MEASURES	2
										SANDSTONE PENNINE MIDDLE COAL MEASURES	3
											4
											5
											6
							7.10	26.70		SANDSTONE PENNINE MIDDLE COAL MEASURES	7
							7.95	25.85		MUDSTONE PENNINE MIDDLE COAL MEASURES	8
							9.15	24.65		SILTSTONE PENNINE MIDDLE COAL MEASURES	9
							9.85	23.95			10
										Continued on next sheet	

Remarks





Rotary Core Log

Borehole No.

P1/3

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347237.00 - 389364.00

Hole Type
RO

Location: Cronton

Level: 33.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.50	22.30		MUDSTONE PENNINE MIDDLE COAL MEASURES	11
							12.95	20.85		SILTSTONE PENNINE MIDDLE COAL MEASURES	12
							13.60	20.20		COAL	13
							14.20 14.25	19.60 19.55		MUDSTONE PENNINE MIDDLE COAL MEASURES	14
										MUDSTONE PENNINE MIDDLE COAL MEASURES SILTSTONE PENNINE MIDDLE COAL MEASURES	15
							15.50	18.30		End of borehole at 15.50 m	16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

P1/4

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347201.00 - 389400.50

Hole Type
RO

Location: Cronton

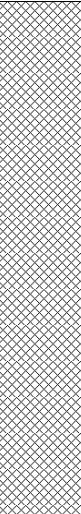
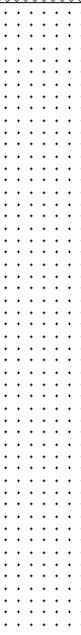
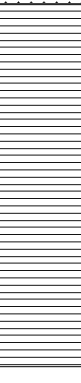
Level: 34.00

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.40	30.60		MADE GROUND: Colliery Spoil MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							7.60	26.40		MUDSTONE PENNINE MIDDLE COAL MEASURES	3
											4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P1/4

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347201.00 - 389400.50

Hole Type
RO

Location: Cronton

Level:	34.00
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description									
				TCR	SCR	RQD													
							14.10	19.90			11								
											12								
											13								
											14								
											14.70	19.30		COAL	15				
															MUDSTONE PENNINE MIDDLE COAL MEASURES	16			
															17				
															17.70	16.30		End of borehole at 17.70 m	18
																			19
																			20

Remarks





Rotary Core Log

Borehole No.

P1/5

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347205.70 - 389390.80

Hole Type
RO

Location: Cronton

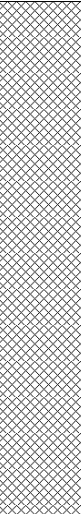
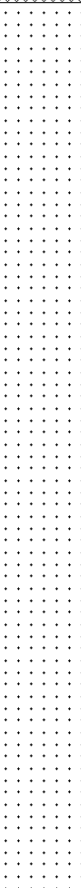
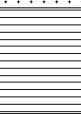
Level: 33.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.40	30.40		MADE GROUND: Colliery Spoil MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
											3
							9.30	24.50		MUDSTONE PENNINE MIDDLE COAL MEASURES	4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Borehole No.

P1/5

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347205.70 - 389390.80

Hole Type
RO

Location: Cronton

Level: 33.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/6

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347226.00 - 389382.00

Hole Type
RO

Location: Cronton

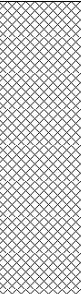
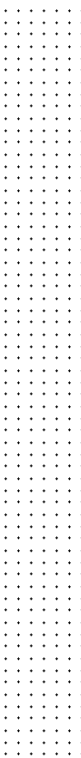
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.95	31.95		MADE GROUND: Colliery Spoil MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
											3
											4
											5
											6
							7.00	26.90		MUDSTONE PENNINE MIDDLE COAL MEASURES	7
											8
											9
											10

Continued on next sheet

Remarks





Borehole No.

P1/6

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347226.00 - 389382.00

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P1/7

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347212.10 - 389377.00

Hole Type
RO

Location: Cronton

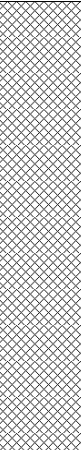
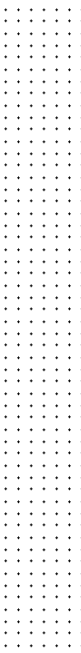
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.00	30.90		MADE GROUND: Colliery Spoil MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							7.40	26.50		SILTSTONE PENNINE MIDDLE COAL MEASURES	8
Continued on next sheet											10

Remarks





P1/7

Hole Type	RO
-----------	----

Scale
1:50

Logged By

--	--

[illegible]



Rotary Core Log

Borehole No.

P2/1

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347283.00 - 389335.00

Hole Type
RO

Location: Cronton

Level: 34.00

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Colliery Waste MADE GROUND	1
							2.20	31.80		SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							2.77	31.23		SANDSTONE PENNINE MIDDLE COAL MEASURES	3
											4
											5
							5.55	28.45		SANDSTONE PENNINE MIDDLE COAL MEASURES	6
							6.30	27.70		MUDSTONE PENNINE MIDDLE COAL MEASURES	7
											8
							7.68	26.32		MUDSTONE PENNINE MIDDLE COAL MEASURES	9
							8.40	25.60		MUDSTONE PENNINE MIDDLE COAL MEASURES	10
										Continued on next sheet	

Remarks





Rotary Core Log

Borehole No.

P2/1

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347283.00 - 389335.00

Hole Type
RO

Location: Cronton

Level:	34.00
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P2/10

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247301.99 - 389288.49

Hole Type
RO

Location: Cronton

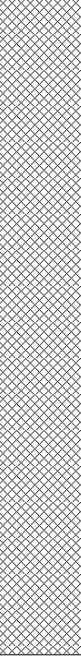
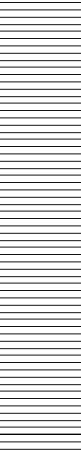
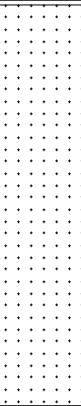
Level: 33.98

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							4.34	29.64		MADE GROUND: Colliery waste MADE GROUND	1
											2
											3
											4
										MUDSTONE PENNINE MIDDLE COAL MEASURES	5
											6
											7
							7.22 7.35	26.76 26.63		MUDSTONE PENNINE MIDDLE COAL MEASURES SANDSTONE PENNINE MIDDLE COAL MEASURES	8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/10

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247301.99 - 389288.49

Hole Type
RO

Location: Cronton

Level: 33.98

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							12.39	21.59			11
							12.78	21.20		SANDSTONE PENNINE MIDDLE COAL MEASURES	12
							13.14	20.84		SANDSTONE PENNINE MIDDLE COAL MEASURES	13
							13.25	20.73		CONGLOMERATE SANDSTONE PENNINE MIDDLE COAL MEASURES	14
							14.89	19.09			
							15.03	18.95		GRAVEL MUDSTONE PENNINE MIDDLE COAL MEASURES	15
							15.47	18.51		MADE GROUND: Mine Workings MADE GROUND	16
							17.22	16.76		MUDSTONE PENNINE MIDDLE COAL MEASURES	17
							19.55	14.43		MADE GROUND: Mine Workings MADE GROUND	18
							20.00	13.98		End of borehole at 20.00 m	19
											20

Remarks





Rotary Core Log

Borehole No.

P2/11

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347273.34 - 389280.49

Hole Type
RO

Location: Cronton

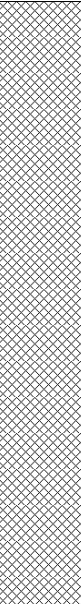
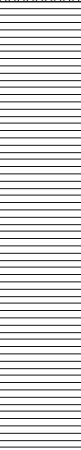
Level: 33.96

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.99	29.97		MADE GROUND: Colliery Waste MADE GROUND	1
											2
											3
											4
										MUDSTONE PENNINE MIDDLE COAL MEASURES	5
											6
							7.09	26.87		MUDSTONE PENNINE MIDDLE COAL MEASURES	7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/11

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347273.34 - 389280.49

Hole Type
RO

Location: Cronton

Level: 33.96

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							14.98	18.98			11
											12
											13
											14
											15
											16
							17.10	16.86			17
							17.49	16.47			18
											19
							18.45	15.51			20

SANDSTONE
PENNINE MIDDLE COAL MEASURES

COAL

MUDSTONE
PENNINE MIDDLE COAL MEASURES

End of borehole at 18.45 m

Remarks





Rotary Core Log

Borehole No.

P2/12

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347179.72 - 389166.74

Hole Type
RO

Location: Cronton

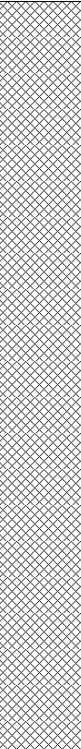
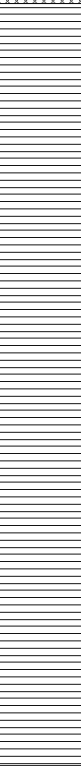
Level: 24.49

Scale
1:50

Client: Tritax Symmetry

Dates: 15/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							4.96	19.53		MADE GROUND: Colliery Waste MADE GROUND	1
											2
											3
											4
											5
										MUDSTONE PENNINE MIDDLE COAL MEASURES	6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/12

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347179.72 - 389166.74

Hole Type
RO

Location: Cronton

Level: 24.49

Scale
1:50

Client: Tritax Symmetry

Dates: 15/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.70	12.79			11
							11.97	12.52		MUDSTONE PENNINE MIDDLE COAL MEASURES	12
							12.42	12.07		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							12.68	11.81		MUDSTONE PENNINE MIDDLE COAL MEASURES	
							12.79	11.70		SANDSTONE PENNINE MIDDLE COAL MEASURES	13
							12.84	11.65		MUDSTONE PENNINE MIDDLE COAL MEASURES	
							13.02	11.47		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							13.09	11.40		MUDSTONE PENNINE MIDDLE COAL MEASURES	14
										MUDSTONE PENNINE MIDDLE COAL MEASURES	
											15
											16
							16.95	7.54			17
											18
							19.15	5.34			19
							19.35	5.14		MUDSTONE PENNINE MIDDLE COAL MEASURES	
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
							19.90	4.59		MUDSTONE	20
							20.00	4.49			

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/12

Sheet 3 of 3

Project Name: Symmetry Park, Huyton	Project No. TE1163	Co-ords: 347179.72 - 389166.74	Hole Type RO
Location: Cronton		Level: 24.49	Scale 1:50
Client: Tritax Symmetry		Dates: 15/08/2003 -	Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										PENNINE MIDDLE COAL MEASURES SANDSTONE PENNINE MIDDLE COAL MEASURES End of borehole at 20.00 m	21
											22
											23
											24
											25
											26
											27
											28
											29
											30

Remarks





Rotary Core Log

Borehole No.

P2/13

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347268.85 - 389235.60

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Colliery Waste MADE GROUND	1
											2
											3
											4
											5
							6.20	27.70			6
							6.40	27.50		MADE GROUND: Coal Waste MADE GROUND CLAY TILL	7
											8
							8.17	25.73		AZCL (Drillers notes flush returns of 60%)	9
											10
							9.46	24.44		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							9.94	23.96			
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

P2/13

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347268.85 - 389235.60

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.00	22.90		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							11.22	22.68		SANDSTONE PENNINE MIDDLE COAL MEASURES	11
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
							11.84	22.06		SANDSTONE PENNINE MIDDLE COAL MEASURES	12
							11.98	21.92		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							12.10	21.80		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							13.00	20.90		SANDSTONE PENNINE MIDDLE COAL MEASURES	13
											14
							14.57	19.33		SANDSTONE PENNINE MIDDLE COAL MEASURES	15
							14.67	19.23		SANDSTONE PENNINE MIDDLE COAL MEASURES	
											16
											17
							17.72	16.18		SANDSTONE PENNINE MIDDLE COAL MEASURES	18
							18.07	15.83		MADE GROUND: Possible Mine Workings MADE GROUND	
							18.48	15.42		MADE GROUND: AZCL Possible Mine Workings MADE GROUND	19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/13

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347268.85 - 389235.60

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							20.10	13.80		----- End of borehole at 20.10 m	
											21
											22
											23
											24
											25
											26
											27
											28
											29
											30

Remarks





Rotary Core Log

Borehole No.

P2/14

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247226.13 - 389186.53

Hole Type
RO

Location: Cronton

Level: 25.82

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MUDSTONE PENNINE MIDDLE COAL MEASURES	1
											2
											3
											4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/14

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247226.13 - 389186.53

Hole Type
RO

Location: Cronton

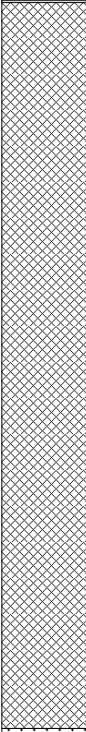
Level: 25.82

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description						
				TCR	SCR	RQD										
							14.61	11.21			11					
											12					
											13					
											14					
											HARD BANDS					
											PENNINE MIDDLE COAL MEASURES					
											15					
											MADE GROUND: Possible Mine Workings					
											MADE GROUND					
											16					
											17					
											18					
											19					
											19.80	6.02			20	
															SANDSTONE	
											Continued on next sheet					

Remarks





Rotary Core Log

Borehole No.

P2/14

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247226.13 - 389186.53

Hole Type
RO

Location: Cronton

Level: 25.82

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							24.30	1.52		PENNINE MIDDLE COAL MEASURES	21
											22
											23
											24
										End of borehole at 24.30 m	25
											26
											27
											28
											29
											30

Remarks





Rotary Core Log

Borehole No.

P2/2

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347316.00 - 389345.00

Hole Type
RO

Location: Cronton

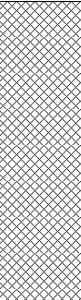
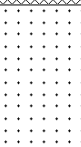
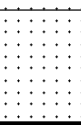
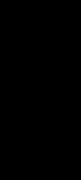
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							2.00	31.90		MADE GROUND: SANDSTONE MADE GROUND	1
							3.00	30.90		SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							3.74	30.16		SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							5.00	28.90		COAL	4
							6.50	27.40		SILTSTONE PENNINE MIDDLE COAL MEASURES	5
										End of borehole at 6.50 m	6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

P2/3

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347353.00 - 389301.00

Hole Type
RO

Location: Cronton

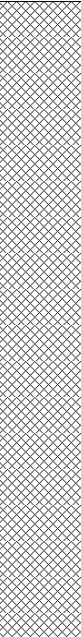
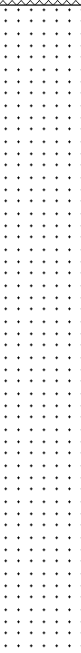
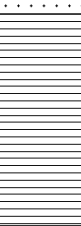
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2023 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							4.23	29.67		MADE GROUND: Colliery Waste MADE GROUND	1
											2
											3
											4
										SANDSTONE PENNINE MIDDLE COAL MEASURES	5
											6
											7
											8
							8.60	25.30		MUDSTONE PENNINE MIDDLE COAL MEASURES	9
							10.00	23.90			10

End of borehole at 10.00 m

Remarks





Rotary Core Log

Borehole No.

P2/4

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347297.10 - 389340.40

Hole Type
RO

Location: Cronton

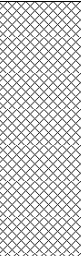
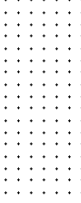
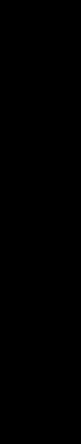
Level: 34.00

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.71	32.29		MADE GROUND: Colliery Waste MADE GROUND	1
							3.10	30.90		SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							3.48	30.52		CLAY TILL	3
							5.40	28.60		CLAY TILL	4
							6.70	27.30		VOID	5
							6.92	27.08		CLAY TILL COAL	6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/4

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347297.10 - 389340.40

Hole Type
RO

Location: Cronton

Level: 34.00

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.70	22.30			11
										SANDSTONE PENNINE MIDDLE COAL MEASURES	12
							13.26	20.74			13
										MUDSTONE PENNINE MIDDLE COAL MEASURES	
							14.00	20.00		End of borehole at 14.00 m	14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

P2/5

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347306.80 - 389323.80

Hole Type
RO

Location: Cronton

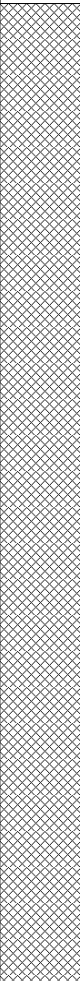
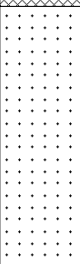
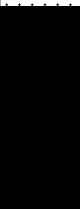
Level: 34.10

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							6.50	27.60		MADE GROUND: Fill MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
											3
											4
											5
									8.24	25.86	
							7				
							9.60	24.50		MUDSTONE PENNINE MIDDLE COAL MEASURES	8
											9
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

P2/6

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347338.40 - 389307.80

Hole Type
RO

Location: Cronton

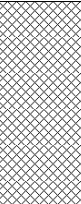
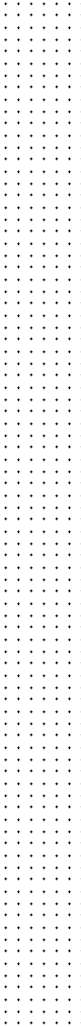
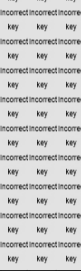
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.36	32.54		MADE GROUND: Colliery Waste MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
											3
											4
											5
											6
											7
											8
							8.19	25.71		OLD WORKINGS	9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P2/6

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347338.40 - 389307.80

Hole Type
RO

Location: Cronton

Level:	33.90
--------	-------

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.80	22.10	incorrect incorrect incorrect key key key incorrect incorrect incorrect		

Remarks





Rotary Core Log

Borehole No.

P2/7

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347332.10 - 389323.90

Hole Type
RO

Location: Cronton

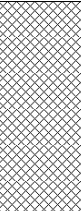
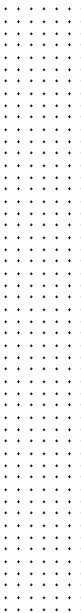
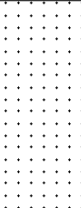
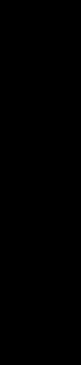
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.41	32.49		MADE GROUND: Coal board waste MADE GROUND	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							5.51	28.39		SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							6.90	27.00		COAL	4
							7.60	26.30		COAL	5
										Continued on next sheet	6

Remarks





Rotary Core Log

Borehole No.

P2/7

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347332.10 - 389323.90

Hole Type
RO

Location: Cronton

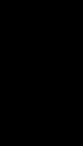
Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							11.02	22.88			
							11.60	22.30		SANDSTONE PENNINE MIDDLE COAL MEASURES	11
							12.50	21.40		MUDSTONE PENNINE MIDDLE COAL MEASURES	12
										End of borehole at 12.50 m	13
											14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

P3/1

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347445.00 - 389480.00

Hole Type
RO

Location: Cronton

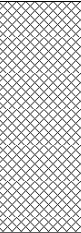
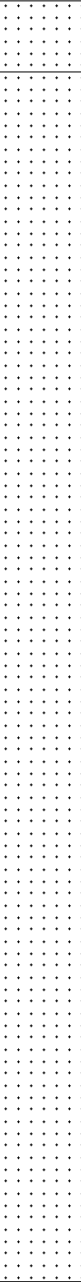
Level: 40.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.53	39.27		MADE GROUND: Colliery Waste MADE GROUND	1
							2.00	38.80		SANDSTONE KINNERTON SANDSTONE FORMATION	2
										SANDSTONE KINNERTON SANDSTONE FORMATION	3
											4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P3/1

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347445.00 - 389480.00

Hole Type
RO

Location: Cronton

Level: 40.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							15.70	25.10			
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

P3/2

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347436.00 - 389454.00

Hole Type
RO

Location: Cronton

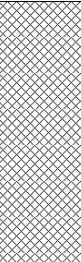
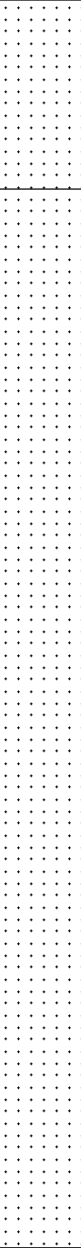
Level: 39.80

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.75	38.05		MADE GROUND: Fill MADE GROUND	1
							3.00	36.80		SANDSTONE KINNERTON SANDSTONE FORMATION	2
										SANDSTONE KINNERTON SANDSTONE FORMATION	3
											4
											5
											6
											7
											8
											9
							10.00	29.80		End of borehole at 10.00 m	10

Remarks





Rotary Core Log

Borehole No.

P3/3

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347470.00 - 389435.00

Hole Type
RO

Location: Cronton

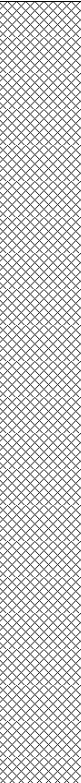
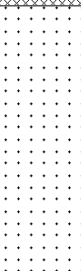
Level: 42.25

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							5.20	37.05		MADE GROUND: Colliery Spoil MADE GROUND	1
											2
											3
											4
											5
							7.00	35.25		SANDSTONE KINNERTON SANDSTONE FORMATION	6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P3/3

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347470.00 - 389435.00

Hole Type
RO

Location: Cronton

Level: 42.25

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P3/3

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347470.00 - 389435.00

Hole Type
RO

Location: Cronton

Level: 42.25

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							20.10	22.15		End of borehole at 20.10 m	
											21
											22
											23
											24
											25
											26
											27
											28
											29
											30

Remarks





Rotary Core Log

Borehole No.

P4/01

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347094.82 - 389498.12

Hole Type
RO

Location: Cronton

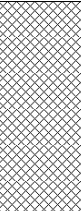
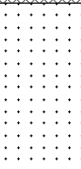
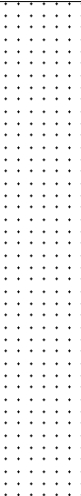
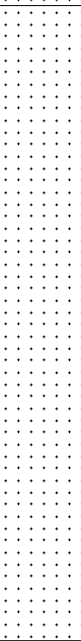
Level: 33.03

Scale
1:50

Client: Tritax Symmetry

Dates: 07/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.40	31.63		MADE GROUND: CLAY MADE GROUND	1
							2.50	30.53		SANDSTONE PENNINE MIDDLE COAL MEASURES	2
										SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							5.80	27.23		SANDSTONE PENNINE MIDDLE COAL MEASURES	6
											7
											8
											9
											10
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

P4/01

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347094.82 - 389498.12

Hole Type	RO
-----------	----

Location: Cronton

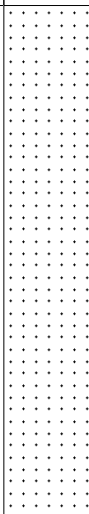
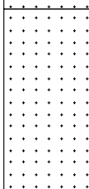
Level: 33.03

Scale
1:50

Client: Tritax Symmetry

Dates: 07/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description			
				TCR	SCR	RQD							
							13.40	19.63			11		
												SANDSTONE PENNINE MIDDLE COAL MEASURES	12
													
										SANDSTONE PENNINE MIDDLE COAL MEASURES	15		
												SANDSTONE PENNINE MIDDLE COAL MEASURES	16
	SANDSTONE PENNINE MIDDLE COAL MEASURES	17											
			SANDSTONE PENNINE MIDDLE COAL MEASURES	18									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			19									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	20									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			21									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	22									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			23									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	24									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			25									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	26									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			27									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	28									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			29									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	30									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			31									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	32									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			33									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	34									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			35									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	36									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			37									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	38									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			39									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	40									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			41									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	42									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			43									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	44									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			45									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	46									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			47									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	48									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			49									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	50									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			51									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	52									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			53									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	54									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			55									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	56									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			57									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	58									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			59									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	60									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			61									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	62									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			63									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	64									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			65									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	66									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			67									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	68									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			69									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	70									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			71									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	72									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			73									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	74									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			75									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	76									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			77									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	78									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			79									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	80									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			81									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	82									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			83									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	84									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			85									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	86									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			87									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	88									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			89									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	90									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			91									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	92									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			93									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	94									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			95									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	96									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			97									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	98									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			99									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	100									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			101									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	102									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			103									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	104									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			105									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	106									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			107									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	108									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			109									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	110									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			111									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	112									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			113									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	114									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			115									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	116									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			117									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	118									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			119									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	120									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			121									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	122									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			123									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	124									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			125									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	126									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			127									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	128									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			129									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	130									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			131									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	132									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			133									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	134									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			135									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	136									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			137									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	138									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			139									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	140									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			141									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	142									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			143									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	144									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			145									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	146									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			147									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	148									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			149									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	150									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			151									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	152									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			153									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	154									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			155									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	156									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			157									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	158									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			159									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	160									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			161									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	162									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			163									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	164									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			165									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	166									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			167									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	168									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			169									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	170									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			171									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	172									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			173									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	174									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			175									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	176									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			177									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	178									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			179									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	180									
	SANDSTONE PENNINE MIDDLE COAL MEASURES			181									
			SANDSTONE PENNINE MIDDLE COAL MEASURES	182									

Remarks





Rotary Core Log

Borehole No.

P4/06

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347054.92 - 389425.50

Hole Type
RO

Location: Cronton

Level: 28.30

Scale
1:50

Client: Tritax Symmetry

Dates: 06/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										CLAY TILL	1
							2.70	25.60			2
							3.00	25.30		SANDSTONE PENNINE MIDDLE COAL MEASURES	3
										SANDSTONE PENNINE MIDDLE COAL MEASURES	4
							4.27	24.03			5
							4.34	23.96		SANDSTONE PENNINE MIDDLE COAL MEASURES	6
							4.70	23.60		SANDSTONE PENNINE MIDDLE COAL MEASURES	7
										SANDSTONE PENNINE MIDDLE COAL MEASURES	8
							5.34	22.96			9
							5.42	22.88		SANDSTONE PENNINE MIDDLE COAL MEASURES	10
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
							5.94	22.36			
							6.06	22.24		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							6.34	21.96		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							6.44	21.86		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							6.50	21.80		SANDSTONE PENNINE MIDDLE COAL MEASURES	
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
							7.12	21.18		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							7.26	21.04		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							7.35	20.95		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							7.68	20.62		SANDSTONE PENNINE MIDDLE COAL MEASURES	
										MUDSTONE PENNINE MIDDLE COAL MEASURES	
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
										SANDSTONE PENNINE MIDDLE COAL MEASURES	
										Continued on next sheet	

Remarks





Rotary Core Log

Borehole No.

P4/06

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347054.92 - 389425.50

Hole Type
RO

Location: Cronton

Level: 28.30

Scale
1:50

Client: Tritax Symmetry

Dates: 06/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.45 10.50 10.78	17.85 17.80 17.52		IRONSTONE SANDSTONE PENNINE MIDDLE COAL MEASURES SANDSTONE PENNINE MIDDLE COAL MEASURES	11
							14.34	13.96		SANDSTONE PENNINE MIDDLE COAL MEASURES	14
							15.58 15.92	12.72 12.38		SANDSTONE PENNINE MIDDLE COAL MEASURES	15
										End of borehole at 15.92 m	16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

P4/09

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347074.45 - 389565.97

Hole Type
RO

Location: Cronton

Level: 34.72

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							2.70	32.02		CLAY TILL	1
							3.20	31.52		SANDSTONE PENNINE MIDDLE COAL MEASURES	3
							4.24	30.48		SANDSTONE PENNINE MIDDLE COAL MEASURES	4
							4.44	30.28		SANDSTONE PENNINE MIDDLE COAL MEASURES	5
							7.65	27.07		SANDSTONE PENNINE MIDDLE COAL MEASURES	8
							7.90	26.82		SANDSTONE PENNINE MIDDLE COAL MEASURES	9
							9.00	25.72		SANDSTONE PENNINE MIDDLE COAL MEASURES	10
							9.37	25.35		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							9.49	25.23		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							9.63	25.09		SANDSTONE PENNINE MIDDLE COAL MEASURES	

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P4/09

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347074.45 - 389565.97

Hole Type
RO

Location: Cronton

Level: 34.72

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.48	24.24		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							11.20	23.52		SANDSTONE PENNINE MIDDLE COAL MEASURES	11
							11.82	22.90		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							11.96	22.76		COAL	12
							12.20	22.52		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							12.40	22.32		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							12.84	21.88		SANDSTONE PENNINE MIDDLE COAL MEASURES	
							12.92	21.80		COAL	13
							13.10	21.62		SANDSTONE PENNINE MIDDLE COAL MEASURES	
										MUDSTONE PENNINE MIDDLE COAL MEASURES	14
							14.88	19.84		MUDSTONE PENNINE MIDDLE COAL MEASURES	15
							15.70	19.02		MUDSTONE PENNINE MIDDLE COAL MEASURES	16
											17
											18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P4/09

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347074.45 - 389565.97

Hole Type
RO

Location: Cronton

Level: 34.72

Scale
1:50

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P4/10

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347134.76 - 389458.38

Hole Type
RO

Location: Cronton

Level: 32.83

Scale
1:50

Client: Tritax Symmetry

Dates: 11/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.90	30.93		CLAY TILL	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
											3
											4
											5
											6
											7
							8.20	24.63		MUDSTONE PENNINE MIDDLE COAL MEASURES	8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P4/10

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347134.76 - 389458.38

Hole Type
RO

Location: Cronton

Level: 32.83

Scale
1:50

Client: Tritax Symmetry

Dates: 11/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							12.80	20.03		COAL	11
							13.40	19.43		MUDSTONE PENNINE MIDDLE COAL MEASURES	12
											13
											14
											15
											16
											17
											18
											19
							20.00	12.83		End of borehole at 20.00 m	20

Remarks





Rotary Core Log

Borehole No.

P5/01

Sheet 1 of 4

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347003.12 - 389535.56

Hole Type
RC

Location: Cronton

Level: 30.95

Scale
1:20

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.20	29.75		CLAY TILL	1
										SANDSTONE PENNINE MIDDLE COAL MEASURES	2
							3.40	27.55		MUDSTONE PENNINE MIDDLE COAL MEASURES	3
										Continued on next sheet	4

Remarks





Rotary Core Log

Borehole No.

P5/01

Sheet 2 of 4

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347003.12 - 389535.56

Hole Type
RC

Location: Cronton

Level: 30.95

Scale
1:20

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P5/01

Sheet 3 of 4

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347003.12 - 389535.56

Hole Type
RC

Location: Cronton

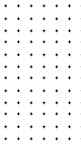
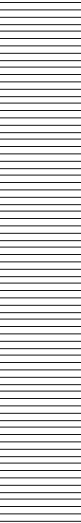
Level: 30.95

Scale
1:20

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							8.40	22.55		MUDSTONE PENNINE MIDDLE COAL MEASURES	9
							9.80	21.15			10
										MUDSTONE PENNINE MIDDLE COAL MEASURES	11
											12

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P5/01

Sheet 4 of 4

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347003.12 - 389535.56

Hole Type
RC

Location: Cronton

Level: 30.95

Scale
1:20

Client: Tritax Symmetry

Dates: 08/08/2003 -

Logged By

[illegible]

Remarks





Rotary Core Log

Borehole No.

P5/06

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346934.11 - 389442.16

Hole Type
RO

Location: Cronton

Level: 26.24

Scale
1:50

Client: Tritax Symmetry

Dates: 11/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.60	22.64		CLAY TILL	1
										MUDSTONE PENNINE MIDDLE COAL MEASURES	4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

P5/06

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346934.11 - 389442.16

Hole Type
RO

Location: Cronton

Level: 26.24

Scale
1:50

Client: Tritax Symmetry

Dates: 11/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.80	15.44			
										SANDSTONE PENNINE MIDDLE COAL MEASURES	11
											12
											13
							14.00	12.24			
										MUDSTONE PENNINE MIDDLE COAL MEASURES	14
											15
											16
											17
							18.00	8.24			
										MUDSTONE PENNINE MIDDLE COAL MEASURES	18
											19
											20
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

P5/06

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346934.11 - 389442.16

Hole Type
RO

Location: Cronton

Level: 26.24

Scale
1:50

Client: Tritax Symmetry

Dates: 11/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											21
											22
											23
											24
											25
											26
											27
											28
											29
							30.00	-3.76		End of borehole at 30.00 m	30

Remarks





Rotary Core Log

Borehole No.

BH01

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347184.38 - 389347.40

Hole Type
RO

Location: Cronton

Level: 33.97

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: GRAVEL MADE GROUND	1
											2
											3
											4
											5
							5.80	28.17		MADE GROUND: BRICK FILL MADE GROUND	6
							6.30	27.67		CLAY	
							6.70	27.27		SANDSTONE	7
							7.50	26.47		End of borehole at 7.50 m	8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH02

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347113.27 - 389183.76

Hole Type
RO

Location: Cronton

Level: 23.35

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: GRAVEL MADE GROUND	
							4.95	18.40			1
							5.20	18.15			2
											3
											4
											5
											6
							6.00	17.35		End of borehole at 6.00 m	7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH03

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347248.18 - 389257.79

Hole Type
RO

Location: Cronton

Level: 33.98

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: CLAY MADE GROUND	1
											2
											3
											4
											5
							6.30	27.68			6
										CLAY	7
							7.80	26.18			8
										SANDSTONE	
							8.65	25.33			9
										End of borehole at 8.65 m	10

Remarks





Rotary Core Log

Borehole No.

BH04

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347371.98 - 389370.27

Hole Type
RO

Location: Cronton

Level: 33.94

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.40	33.54		MADE GROUND: GRAVEL MADE GROUND	
							1.00	32.94		MUDSTONE	
										----- End of borehole at 1.00 m	1
											2
											3
											4
											5
											6
											7
											8
											9
											10

Remarks





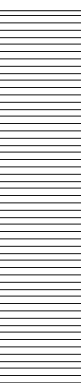
Rotary Core Log

Borehole No.

BH05

Sheet 1 of 1

Project Name: Symmetry Park, Huyton	Project No. TE1163	Co-ords: 347372.04 - 389323.94	Hole Type RO
Location: Cronton		Level: 33.97	Scale 1:50
Client: Tritax Symmetry		Dates: 29/07/2003 -	Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.50	33.47		MADE GROUND: CLAY MADE GROUND	
							1.00	32.97		CLAY	1
										MUDSTONE	2
							3.50	30.47		End of borehole at 3.50 m	3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH06

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347371.47 - 389265.21

Hole Type
RO

Location: Cronton

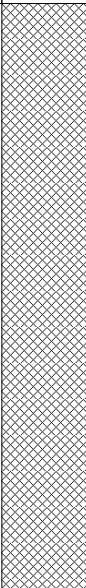
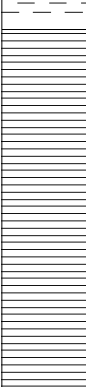
Level: 34.03

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
							3.90 4.10	30.13 29.93		MADE GROUND: GRAVEL MADE GROUND	1	
											2	
											3	
											4	
										CLAY MUDSTONE	5	
											6	
											End of borehole at 6.50 m	7
												8
												9
												10

Remarks





Rotary Core Log

Borehole No.

BH07

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347452.95 - 389258.61

Hole Type
RO

Location: Cronton

Level: 33.90

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.40	30.50		MADE GROUND: GRAVEL MADE GROUND	1
											2
											3
							4.45	29.45		MADE GROUND: CLAY MADE GROUND	4
							4.85	29.05		CLAY	5
										MUDSTONE	6
							6.45	27.45			7
										End of borehole at 6.45 m	8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH08

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347443.54 - 389320.90

Hole Type
RO

Location: Cronton

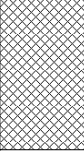
Level: 36.45

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.00	35.45		MADE GROUND: CLAY MADE GROUND	
										----- End of borehole at 1.00 m	1
											2
											3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH08A

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347444.23 - 389322.91

Hole Type
RO

Location: Cronton

Level: 36.51

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.35	33.16		MADE GROUND: CLAY MADE GROUND	1
							4.20	32.31		CLAY	4
							5.95	30.56		MUDSTONE	5
										End of borehole at 5.95 m	6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH09

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347456.86 - 289370.17

Hole Type
RO

Location: Cronton

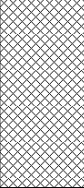
Level: 37.33

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.25	36.08		MADE GROUND: GRAVEL MADE GROUND	1
										----- End of borehole at 1.25 m -----	2
											3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH09A

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347452.42 - 389372.45

Hole Type
RO

Location: Cronton

Level: 37.44

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.95	36.49		MADE GROUND: GRAVEL MADE GROUND	
							1.30	36.14		MADE GROUND: Concrete Obstruction MADE GROUND	1
							2.00	35.44		MADE GROUND: CLAY MADE GROUND	2
										MUDSTONE	3
											4
							5.00	32.44		End of borehole at 5.00 m	5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH10

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347393.99 - 389045.88

Hole Type
RO

Location: Cronton

Level: 30.17

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND; GRAVEL MADE GROUND	
							5.90	24.27			
							6.75	23.42		CLAY	
							7.40	22.77		SAND	
							8.15	22.02		CLAY	
										End of borehole at 8.15 m	

Remarks





Rotary Core Log

Borehole No.

BH101

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247808.35 - 389233.21

Hole Type
RO

Location: Cronton

Level: 43.98

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: CLAY MADE GROUND	1
											2
											3
											4
							5.00	38.98		MADE GROUND: CLAY MADE GROUND	5
							6.00	37.98		MADE GROUND: GRAVEL MADE GROUND	6
											7
											8
											9
							9.50	34.48		MADE GROUND: GRAVEL MADE GROUND	10
Continued on next sheet											

Remarks





Rotary Core Log

Borehole No.

BH101

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 247808.35 - 389233.21

Hole Type
RO

Location: Cronton

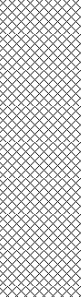
Level: 43.98

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
											11
							12.00	31.98		GRAVEL	12
							12.20	31.78		CLAY	
							13.00	30.98		End of borehole at 13.00 m	13
											14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

BH102

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347681.17 - 389084.39

Hole Type
RO

Location: Cronton

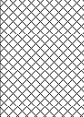
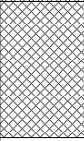
Level: 30.25

Scale
1:50

Client: Tritax Symmetry

Dates: 31/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.80	29.45		MADE GROUND: GRAVEL MADE GROUND	
							1.70	28.55		MADE GROUND: GRAVEL MADE GROUND	1
										End of borehole at 1.70 m	2
											3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH102A

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347678.00 - 389081.24

Hole Type
RO

Location: Cronton

Level: 30.25

Scale
1:50

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.80	29.45		MADE GROUND: GRAVEL MADE GROUND	
							1.70	28.55		MADE GROUND: GRAVEL MADE GROUND	1
										MADE GROUND: GRAVEL MADE GROUND	2
							4.50	25.75		MADE GROUND: GRAVEL MADE GROUND	
							4.90	25.35		MADE GROUND: GRAVEL MADE GROUND	5
										CLAY	6
							7.50	22.75		End of borehole at 7.50 m	7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH103

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347577.44 - 389084.40

Hole Type
RO

Location: Cronton

Level: 30.09

Scale
1:50

Client: Tritax Symmetry

Dates: 31/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.50	26.59		MADE GROUND: CLAY MADE GROUND	1
											2
											3
											4
											5
							5.80	24.29		MADE GROUND: GRAVEL MADE GROUND	6
							6.10	23.99		SAND	7
										CLAY	8
							7.10	22.99			9
										End of borehole at 7.10 m	10

Remarks





Rotary Core Log

Borehole No.

BH104

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347614.48 - 389296.95

Hole Type
RO

Location: Cronton

Level: 34.00

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.20	32.80		MADE GROUND: SAND MADE GROUND	1
							1.80	32.20		CLAY	
							2.00	32.00		CLAY	2
										SANDSTONE	3
							4.00	30.00		End of borehole at 4.00 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH105

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347599.31 - 389445.66

Hole Type
RO

Location: Cronton

Level: 47.12

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.70	45.42		MADE GROUND: GRAVEL MADE GROUND	1
										MADE GROUND: CLAY MADE GROUND	2
							4.00	43.12		MADE GROUND: CLAY MADE GROUND	4
							4.20	42.92		MADE GROUND: CLAY MADE GROUND	5
							6.00	41.12		MADE GROUND: CLAY MADE GROUND	6
							6.50	40.62		MADE GROUND: CLAY MADE GROUND	7
							8.30	38.82		CLAY	8
							9.00	38.12		End of borehole at 9.00 m	9
											10

Remarks





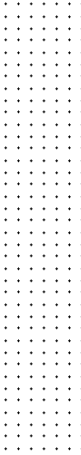
Rotary Core Log

Borehole No.

BH106

Sheet 1 of 1

Project Name: Symmetry Park, Huyton	Project No. TE1163	Co-ords: 347521.77 - 389350.94	Hole Type RO
Location: Cronton		Level: 36.40	Scale 1:50
Client: Tritax Symmetry		Dates: 30/07/2003 -	Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.25	36.15		MADE GROUND	1
										MADE GROUND SANDSTONE	
							3.30	33.10		End of borehole at 3.30 m	3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH107

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347477.18 - 389101.15

Hole Type
RO

Location: Cronton

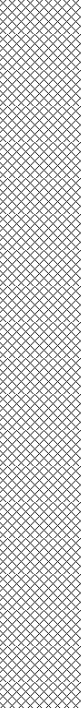
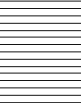
Level: 29.91

Scale
1:50

Client: Tritax Symmetry

Dates: 04/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							4.70	25.21		MADE GROUND: CLAY MADE GROUND	1
											2
											3
											4
											5
											6
							8.10	21.81		SAND	8
							8.80	21.11		SAND	9
							9.00	20.91		MUDSTONE	9
							9.80	20.11			10
										End of borehole at 9.80 m	

Remarks





Rotary Core Log

Borehole No.

BH108

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347497.05 - 388990.53

Hole Type
RO

Location: Cronton

Level: 30.25

Scale
1:50

Client: Tritax Symmetry

Dates: 04/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							2.10	28.15		MADE GROUND: GRAVEL MADE GROUND	1
							2.70	27.55		MADE GROUND: SILT MADE GROUND	2
							3.00	27.25		MADE GROUND: CLAY FILL MADE GROUND	3
										MADE GROUND: CLAY MADE GROUND	4
							5.80	24.45		CLAY	5
							7.00	23.25		End of borehole at 7.00 m	6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH109

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347422.56 - 389205.45

Hole Type
RO

Location: Cronton

Level: 34.04

Scale
1:50

Client: Tritax Symmetry

Dates: 28/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: GRAVEL MADE GROUND	1
											2
											3
											4
							5.20	28.84			5
							5.40	28.64		MADE GROUND: Colliery Fill MADE GROUND MADE GROUND: Colliery Fill MADE GROUND	6
							6.00	28.04		CLAY	7
							7.00	27.04		End of borehole at 7.00 m	8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH11

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347535.13 - 389260.95

Hole Type
RO

Location: Cronton

Level: 33.84

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.60	33.24		MADE GROUND: COLLIERY FILL MADE GROUND	
										----- End of borehole at 0.60 m	1
											2
											3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH110

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347359.36 - 389510.22

Hole Type
RO

Location: Cronton

Level: 40.20

Scale
1:50

Client: Tritax Symmetry

Dates: 04/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	40.10		TOPSOIL TOP	
							0.70	39.50		CLAY	1
							1.80	38.40		MUDSTONE	2
							3.35	36.85		End of borehole at 3.35 m	3
											4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH110R

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347359.36 - 389510.22

Hole Type
RO

Location: Cronton

Level: 40.20

Scale
1:50

Client: Tritax Symmetry

Dates: 14/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	40.00		CLAY	
							0.60	39.60		SAND	
							1.60	38.60		CLAY	1
							3.10	37.10		MUDSTONE	2
							5.20	35.00		MUDSTONE	3
							7.40	32.80		MUDSTONE	4
							9.80	30.40		MUDSTONE	5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.
BH110R

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347359.36 - 389510.22

Hole Type
RO

Location: Cronton

Level: 40.20

Scale
1:50

Client: Tritax Symmetry

Dates: 14/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							13.70	26.50			11
											12
											13
											14
											15
											16
											17
											18
											19
											20

End of borehole at 13.70 m

Remarks





Rotary Core Log

Borehole No.

BH111A

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347307.74 - 389215.50

Hole Type
RO

Location: Cronton

Level: 34.07

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MADE GROUND: Colliery Spoil MADE GROUND	1
											2
											3
											4
											5
							5.50	28.57		MADE GROUND: CONCRETE MADE GROUND	6
							5.90	28.17		MADE GROUND: GRAVEL MADE GROUND	7
							6.70	27.37		CLAY	8
							8.00	26.07		End of borehole at 8.00 m	9
											10

Remarks





Rotary Core Log

Borehole No.

BH112

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347279.46 - 389141.82

Hole Type
RO

Location: Cronton

Level: 24.24

Scale
1:50

Client: Tritax Symmetry

Dates: 04/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	24.04		TOPSOIL TOP MADE GROUND: SILT MADE GROUND	1
							3.45	20.79		CLAY	2
							4.50	19.74		MUDSTONE	3
							4.84	19.40		End of borehole at 4.84 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH113

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347259.72 - 389166.96

Hole Type
RO

Location: Cronton

Level: 24.01

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	23.91		MADE GROUND	
							0.30	23.71		MADE GROUND	
							0.40	23.61		TARMAC	
										CONCRETE	
										MADE GROUND: Colliery Fill	
										MADE GROUND	
							1.55	22.46		CLAY	1
							2.70	21.31		MUDSTONE	2
							4.25	19.76			3
										End of borehole at 4.25 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH114

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347263.24 - 389435.23

Hole Type
RO

Location: Cronton

Level: 35.80

Scale
1:50

Client: Tritax Symmetry

Dates: 04/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	35.70		TOPSOIL	
							0.40	35.40		TOP	
										CLAY	
										MUDSTONE	
											1
											2
											3
							2.95	32.85		End of borehole at 2.95 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH115

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347241.58 - 389516.73

Hole Type
RO

Location: Cronton

Level: 35.90

Scale
1:50

Client: Tritax Symmetry

Dates: 05/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.25	35.65		TOPSOIL	
										CLAY	1
							1.45	34.45		CLAY	2
							2.40	33.50		MUDSTONE	3
							3.45	32.45		End of borehole at 3.45 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH116

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347189.61 - 389423.41

Hole Type
RO

Location: Cronton

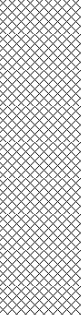
Level: 33.95

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							2.10	31.85		MADE GROUND: CLAY MADE GROUND	1
										SAND	2
							3.70	30.25		SANDSTONE	3
							4.05	29.90		End of borehole at 4.05 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH117

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347181.42 - 389293.69

Hole Type
RO

Location: Cronton

Level: 34.16

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.50	30.66		MADE GROUND: GRAVEL MADE GROUND	1
											2
											3
							5.30	28.86		MADE GROUND: CLAY MADE GROUND	4
											5
							6.80 6.95	27.36 27.21		MADE GROUND: CLAY MADE GROUND	6
										MADE GROUND: CONCRETE MADE GROUND MADE GROUND: GRAVEL MADE GROUND	7
							8.20	25.96		CLAY	8
											9
							9.50	24.66		End of borehole at 9.50 m	10

Remarks





Rotary Core Log

Borehole No.

BH118

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347114.66 - 339458.24

Hole Type
RO

Location: Cronton

Level: 32.03

Scale
1:50

Client: Tritax Symmetry

Dates: 05/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	31.93		TOPSOIL	
										TOP CLAY	
							0.50	31.53		SANDSTONE	1
							1.50	30.53		SANDSTONE	2
							2.75	29.28			3
										End of borehole at 2.75 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH119

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347084.58 - 389544.47

Hole Type
RO

Location: Cronton

Level: 34.42

Scale
1:50

Client: Tritax Symmetry

Dates: 05/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.50	33.92		TOPSOIL TOP	
							1.55	32.87		CLAY	1
							2.60	31.82		CLAY	2
							2.74	31.68		SANDSTONE	3
										End of borehole at 2.74 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH11A

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347534.40 - 389260.95

Hole Type
RO

Location: Cronton

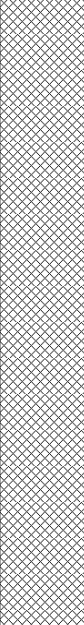
Level: 33.85

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							4.15	29.70		MADE GROUND: GRAVEL MADE GROUND	1 2 3 4 5 6 7 8 9 10
										End of borehole at 4.15 m	

Remarks





Rotary Core Log

Borehole No.

BH12

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347596.19 - 389377.47

Hole Type
RO

Location: Cronton

Level: 47.74

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	47.54		MADE GROUND: TURF MADE GROUND MADE GROUND: CLAY MADE GROUND	1
							3.70	44.04		MADE GROUND: CLAY MADE GROUND	4
							8.00	39.74		MADE GROUND: CLAY MADE GROUND	8
Continued on next sheet											10

Remarks





Rotary Core Log

Borehole No.

BH12

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347596.19 - 389377.47

Hole Type
RO

Location: Cronton

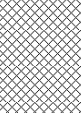
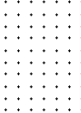
Level: 47.74

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.80 11.00 11.10	36.94 36.74 36.64	  	MADE GROUND: Ash brick and shale fill MADE GROUND CLAY SANDSTONE	11
							12.00	35.74		End of borehole at 12.00 m	12
											13
											14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

BH120

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347085.65 - 389236.19

Hole Type
RO

Location: Cronton

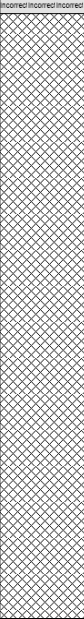
Level: 24.90

Scale
1:50

Client: Tritax Symmetry

Dates: 30/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	24.80		COLLIERY FILL MADE GROUND: GRAVEL MADE GROUND	1
							4.10	20.80		CLAY	4
							5.80	19.10		MUDSTONE	6
							6.85	18.05		End of borehole at 6.85 m	7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH121

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347015.74 - 389327.85

Hole Type
RO

Location: Cronton

Level: 24.56

Scale
1:50

Client: Tritax Symmetry

Dates: 05/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.35	24.21		TOPSOIL TOP	
										CLAY	1
											2
											3
							3.60 3.70	20.96 20.86		MUDSTONE	4
										End of borehole at 3.70 m	5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH121R

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347015.74 - 389327.85

Hole Type
RO

Location: Cronton

Level: 24.58

Scale
1:50

Client: Tritax Symmetry

Dates: 13/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										SANDSTONE	1
											2
											3
											4
											5
							6.37	18.21		SANDSTONE	6
							7.10	17.48		SANDSTONE	7
							8.00	16.58		GRAVEL	8
							8.10	16.48		SANDSTONE	9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

BH121R

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347015.74 - 389327.85

Hole Type
RO

Location: Cronton

Level: 24.58

Scale
1:50

Client: Tritax Symmetry

Dates: 13/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.67 10.73	13.91 13.85		COAL SANDSTONE	11
							11.33 11.49 11.53 11.62 11.75	13.25 13.09 13.05 12.96 12.83	 	COAL SANDSTONE COAL MUDSTONE SANDSTONE	12
							12.73	11.85		MUDSTONE	13
							13.34	11.24		SANDSTONE	
							13.77	10.81		MUDSTONE	14
							19.60	4.98		End of borehole at 19.60 m	20

Remarks





Rotary Core Log

Borehole No.

BH122

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347189.91 - 389162.24

Hole Type
RO

Location: Cronton

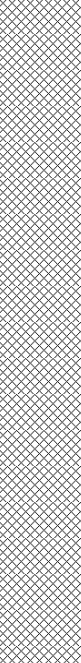
Level: 23.98

Scale
1:50

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							4.40	19.58		MADE GROUND: CLAY MADE GROUND	1
											2
											3
											4
											5
							6.05	17.93		CLAY	6
							6.30	17.68		MUDSTONE	7
										End of borehole at 6.30 m	8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH123

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346918.22 - 389490.16

Hole Type
RO

Location: Cronton

Level: 27.18

Scale
1:50

Client: Tritax Symmetry

Dates: 05/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	27.08		TOPSOIL	
										TOP CLAY	
							0.70	26.48		CLAY	1
											2
							2.95	24.23		MUDSTONE	3
											4
							4.25	22.93		End of borehole at 4.25 m	5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH124

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346910.78 - 389233.08

Hole Type
RO

Location: Cronton

Level: 22.50

Scale
1:50

Client: Tritax Symmetry

Dates: 31/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.30	22.20		TOPSOIL TOP CLAY	
							2.05	20.45		CLAY	
							9.00	13.50		MUDSTONE	
							9.20	13.30		End of borehole at 9.20 m	

Remarks





Rotary Core Log

Borehole No.

BH124R

Sheet 1 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346913.45 - 389230.99

Hole Type
RO

Location: Cronton

Level: 22.59

Scale
1:50

Client: Tritax Symmetry

Dates: 15/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
										MUDSTONE	
											1
											2
											3
											4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

BH124R

Sheet 2 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346913.45 - 389230.99

Hole Type
RO

Location: Cronton

Level: 22.59

Scale
1:50

Client: Tritax Symmetry

Dates: 15/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.20	12.39			
							10.44	12.15		MUDSTONE	
										MUDSTONE	
							11.04	11.55		MUDSTONE	11
							11.34	11.25		MUDSTONE	
							11.80	10.79		SANDSTONE	12
											13
							13.74	8.85		MUDSTONE	
							13.84	8.75		MUDSTONE	14
							14.20	8.39		SANDSTONE	
											15
							15.57	7.02		MUDSTONE	
							16.16	6.43		MUDSTONE	16
											17
							18.08	4.51		MUDSTONE	18
											19
											20

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

BH124R

Sheet 3 of 3

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346913.45 - 389230.99

Hole Type
RO

Location: Cronton

Level: 22.59

Scale
1:50

Client: Tritax Symmetry

Dates: 15/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							20.05 20.20	2.54 2.39		SANDSTONE	
										End of borehole at 20.20 m	
											21
											22
											23
											24
											25
											26
											27
											28
											29
											30

Remarks





Rotary Core Log

Borehole No.

BH125

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346873.43 - 389390.58

Hole Type
RO

Location: Cronton

Level: 24.78

Scale
1:50

Client: Tritax Symmetry

Dates: 06/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	24.68		TOPSOIL	
										TOP CLAY	
							0.50	24.28		CLAY	
											1
											2
							2.50	22.28		CLAY	
											3
											4
											5
							5.10	19.68		MUDSTONE	
							5.50	19.28			
										End of borehole at 5.50 m	6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH126

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346804.32 - 389181.01

Hole Type
RO

Location: Cronton

Level: 19.77

Scale
1:50

Client: Tritax Symmetry

Dates: 31/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	19.67		TOPSOIL TOP CLAY	1
											2
											3
											4
											5
							5.80	13.97		SANDSTONE	6
							6.45	13.32		End of borehole at 6.45 m	7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH127

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346787.60 - 389304.44

Hole Type
RO

Location: Cronton

Level: 23.13

Scale
1:50

Client: Tritax Symmetry

Dates: 31/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.25	22.88		TOPSOIL TOP CLAY	
							4.10	19.03		CLAY	
							9.15 9.30	13.98 13.83		SANDSTONE	
										End of borehole at 9.30 m	

Remarks





Rotary Core Log

Borehole No.

BH128

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346866.41 - 389501.08

Hole Type
RO

Location: Cronton

Level: 25.95

Scale
1:50

Client: Tritax Symmetry

Dates: 05/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.40	25.55		TOPSOIL TOP	
										CLAY	1
							2.85 3.00	23.10 22.95		SANDSTONE	3
										End of borehole at 3.00 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH129

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346693.00 - 389396.30

Hole Type
RO

Location: Cronton

Level: 23.73

Scale
1:50

Client: Tritax Symmetry

Dates: 01/08/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.10	23.63		TOPSOIL TOP MADE GROUND: Brick concrete rubble clay fill. MADE GROUND	1
							3.50	20.23		CLAY	2
							7.45	16.28		MUDSTONE	3
							8.85	14.88		End of borehole at 8.85 m	4
											5
											6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH13

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347961.14 - 389445.28

Hole Type
RO

Location: Cronton

Level: 46.34

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	46.14		MADE GROUND: Grass over soil MADE GROUND MADE GROUND: GRAVEL MADE GROUND	1
											2
											3
							4.20	42.14		MADE GROUND: SAND MADE GROUND	4
											5
											6
											7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

BH13

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347961.14 - 389445.28

Hole Type
RO

Location: Cronton

Level: 46.34

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.30	36.04		MADE GROUND: CLAY MADE GROUND	11
							11.20	35.14		MADE GROUND: GRAVEL MADE GROUND	12
							12.20	34.14		SANDSTONE	13
							13.45	32.89		End of borehole at 13.45 m	14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

BH130

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 345663.68 - 389300.25

Hole Type
RO

Location: Cronton

Level: 19.64

Scale
1:50

Client: Tritax Symmetry

Dates: 31/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	19.44		TOPSOIL TOP	
							1.00	18.64		MADE GROUND: CLAY MADE GROUND CLAY	1
											2
											3
											4
							5.50	14.14		SANDSTONE	5
							6.50	13.14		End of borehole at 6.50 m	6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH131

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 346921.57 - 389392.20

Hole Type
RO

Location: Cronton

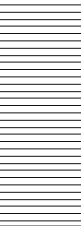
Level: 25.16

Scale
1:50

Client: Tritax Symmetry

Dates: 05/05/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							3.90	21.26		CLAY	1
											2
											3
											4
							5.40	19.76		MUDSTONE	5
											6
											7
											8
											9
											10

End of borehole at 5.40 m

Remarks





Rotary Core Log

Borehole No.

BH14

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347772.49 - 389232.36

Hole Type
RO

Location: Cronton

Level: 43.77

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.20	43.57		MADE GROUND: Grass over soil MADE GROUND MADE GROUND: GRAVEL MADE GROUND	1
							4.00	39.77		MADE GROUND: GRAVEL MADE GROUND	4
							4.70	39.07		MADE GROUND: CLAY MADE GROUND	5
							7.70	36.07		MADE GROUND: GRAVEL MADE GROUND	8
							9.30	34.47		MADE GROUND: CLAY MADE GROUND	9
										Continued on next sheet	10

Remarks





Rotary Core Log

Borehole No.

BH14

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347772.49 - 389232.36

Hole Type
RO

Location: Cronton

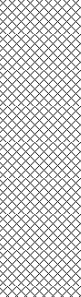
Level: 43.77

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							12.00	31.77			11
							13.00	30.77		CLAY	12
										End of borehole at 13.00 m	13
											14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

BH15

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347657.33 - 389154.94

Hole Type
RO

Location: Cronton

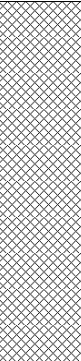
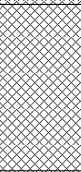
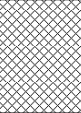
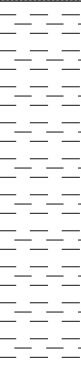
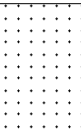
Level: 30.07

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							2.40	27.67		MADE GROUND: GRAVEL MADE GROUND	1
							3.50	26.57		MADE GROUND: CLAY MADE GROUND	2
							4.25	25.82		MADE GROUND: GRAVEL MADE GROUND	3
							6.70	23.37		CLAY	4
							7.60	22.47		SANDSTONE	5
										End of borehole at 7.60 m	6
											7
											8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH16

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347876.78 - 389126.73

Hole Type
RO

Location: Cronton

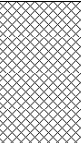
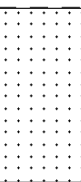
Level: 31.13

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.95	30.18		MADE GROUND: CLAY MADE GROUND	
										CLAY	1
											2
											3
											4
											5
											6
							6.85	24.28		SANDSTONE	7
							8.00	23.13		End of borehole at 8.00 m	8
											9
											10

Remarks





Rotary Core Log

Borehole No.

BH17

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347761.64 - 389048.13

Hole Type
RO

Location: Cronton

Level: 30.16

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.15	30.01		MADE GROUND: TOPSOIL MADE GROUND MADE GROUND: GRAVEL MADE GROUND	
							1.30	28.86		MADE GROUND: CLAY MADE GROUND	1
							3.95	26.21		CLAY	4
							4.30	25.86		SAND	
							4.65	25.51		CLAY	5
							9.25	20.91		End of borehole at 9.25 m	10

Remarks





Rotary Core Log

Borehole No.

BH18

Sheet 1 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347718.01 - 389011.35

Hole Type
RO

Location: Cronton

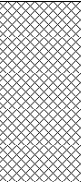
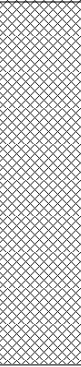
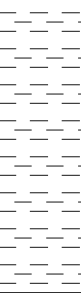
Level: 31.79

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.20	30.59		MADE GROUND: CLAY MADE GROUND	1
										MADE GROUND: CLAY MADE GROUND	2
							3.60	28.19		CLAY	3
							4.00	27.79		CLAY	4
											5
							7.50	24.29		CLAY	6
							7.85	23.94		CLAY	7
											8
											9
											10

Continued on next sheet

Remarks





Rotary Core Log

Borehole No.

BH18

Sheet 2 of 2

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347718.01 - 389011.35

Hole Type
RO

Location: Cronton

Level: 31.79

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							10.05	21.74		----- End of borehole at 10.05 m	
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20

Remarks





Rotary Core Log

Borehole No.

BH19

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347694.41 - 388938.34

Hole Type
RO

Location: Cronton

Level: 30.94

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.20	29.74		MADE GROUND: CLAY MADE GROUND	1
										MADE GROUND: CLAY MADE GROUND	2
							2.70	28.24		SAND	3
							2.90	28.04		CLAY	
							3.40	27.54		SAND	4
							3.70	27.24		CLAY	
											5
							5.45	25.49		SAND	6
							5.80	25.14		CLAY	
											7
							7.60	23.34			8
										End of borehole at 7.60 m	9
											10

Remarks





Rotary Core Log

Borehole No.

BH20

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE1163

Co-ords: 347617.80 - 388994.56

Hole Type
RO

Location: Cronton

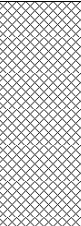
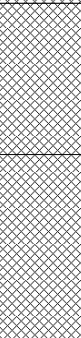
Level: 30.06

Scale
1:50

Client: Tritax Symmetry

Dates: 29/07/2003 -

Logged By

Well	Water Strikes	Depth (m)	Type / Fl	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							1.50	28.56		MADE GROUND; GRAVEL MADE GROUND	1
							2.50	27.56		MADE GROUND; CLAY MADE GROUND	2
							3.75	26.31		MADE GROUND; GRAVEL MADE GROUND	3
							7.40	22.66		CLAY	4
							8.05	22.01		CLAY	5
										End of borehole at 8.05 m	6
											7
											8
											9
											10

Remarks



APPENDIX C – COAL AUTHORITY RECORDS



The Coal
Authority

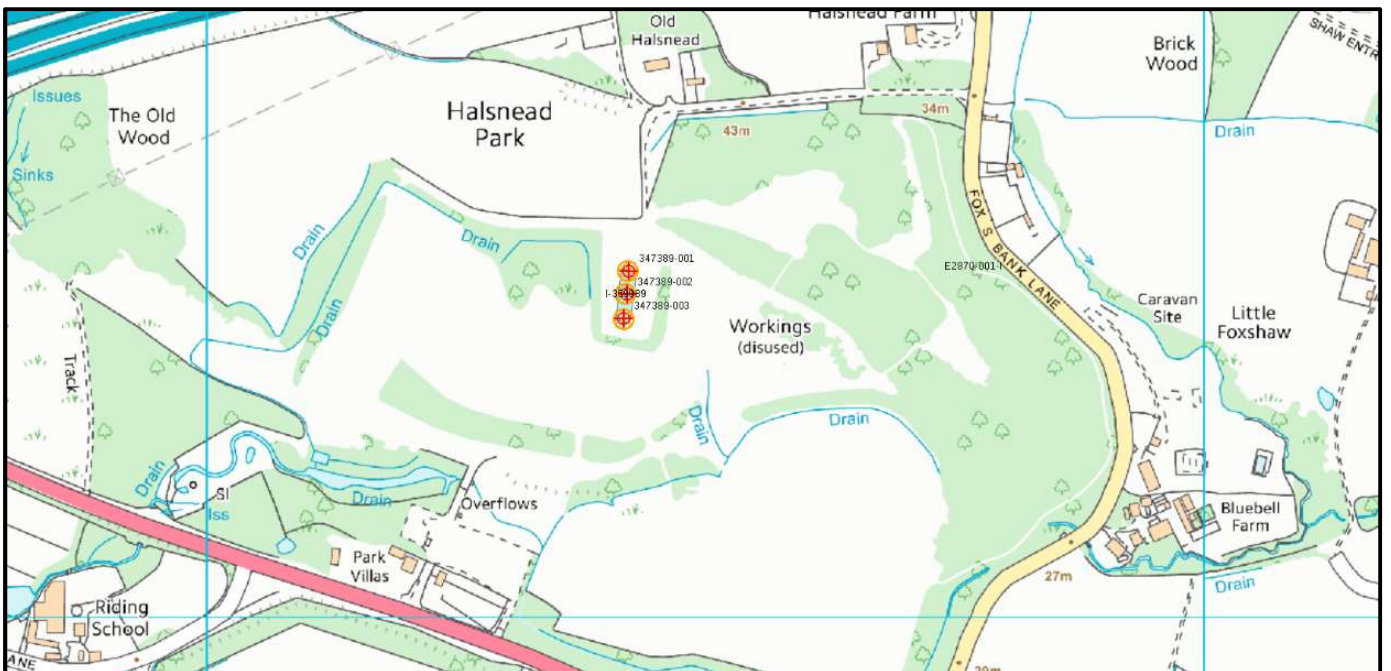
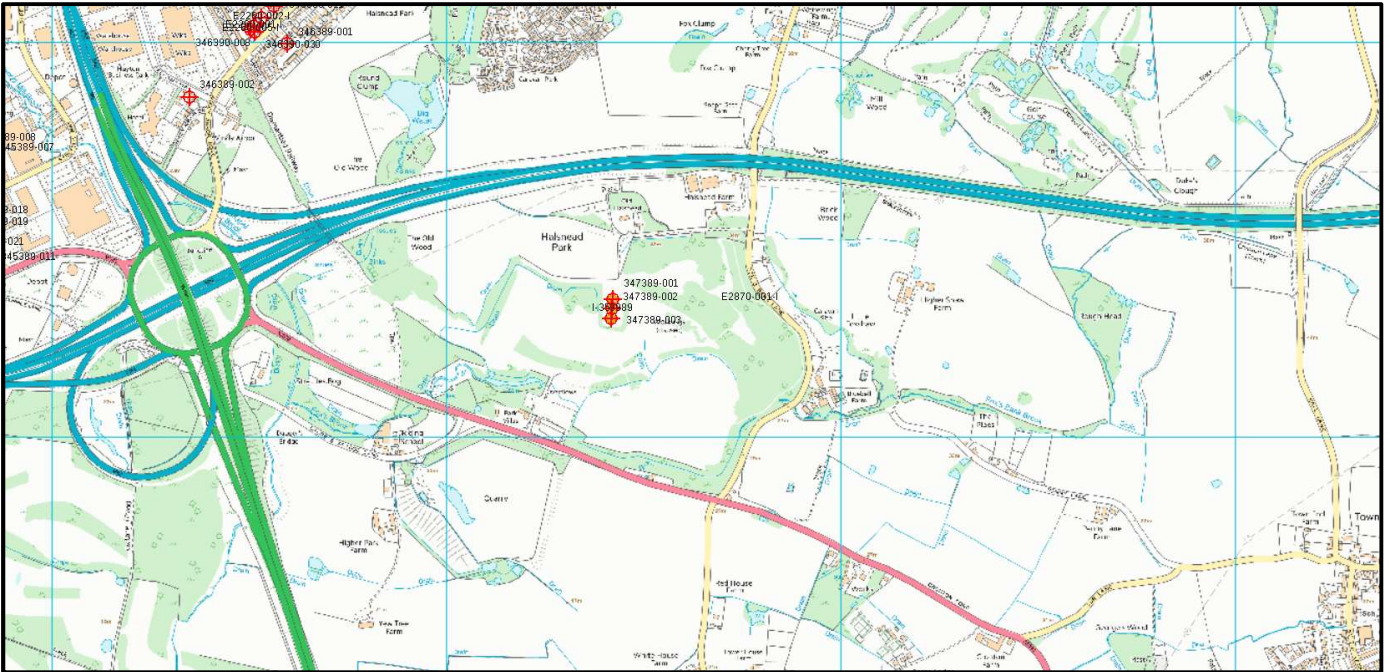
Mine Gas Emissions Report

Halsnead Farm
Foxs Bank Lane
Cronton
Knowsley
L35 3SU

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

6 August 2020

Location Plan



Sub sites

Coordinates	
L1501.1 Cronton No1 Shaft	347418E 389300N
L150.2 Cronton No2 Shaft	347420E 389324N
L150.3 Cronton No3 Shaft	347423E 389347N

L150.1 Cronton No1 Shaft

Background

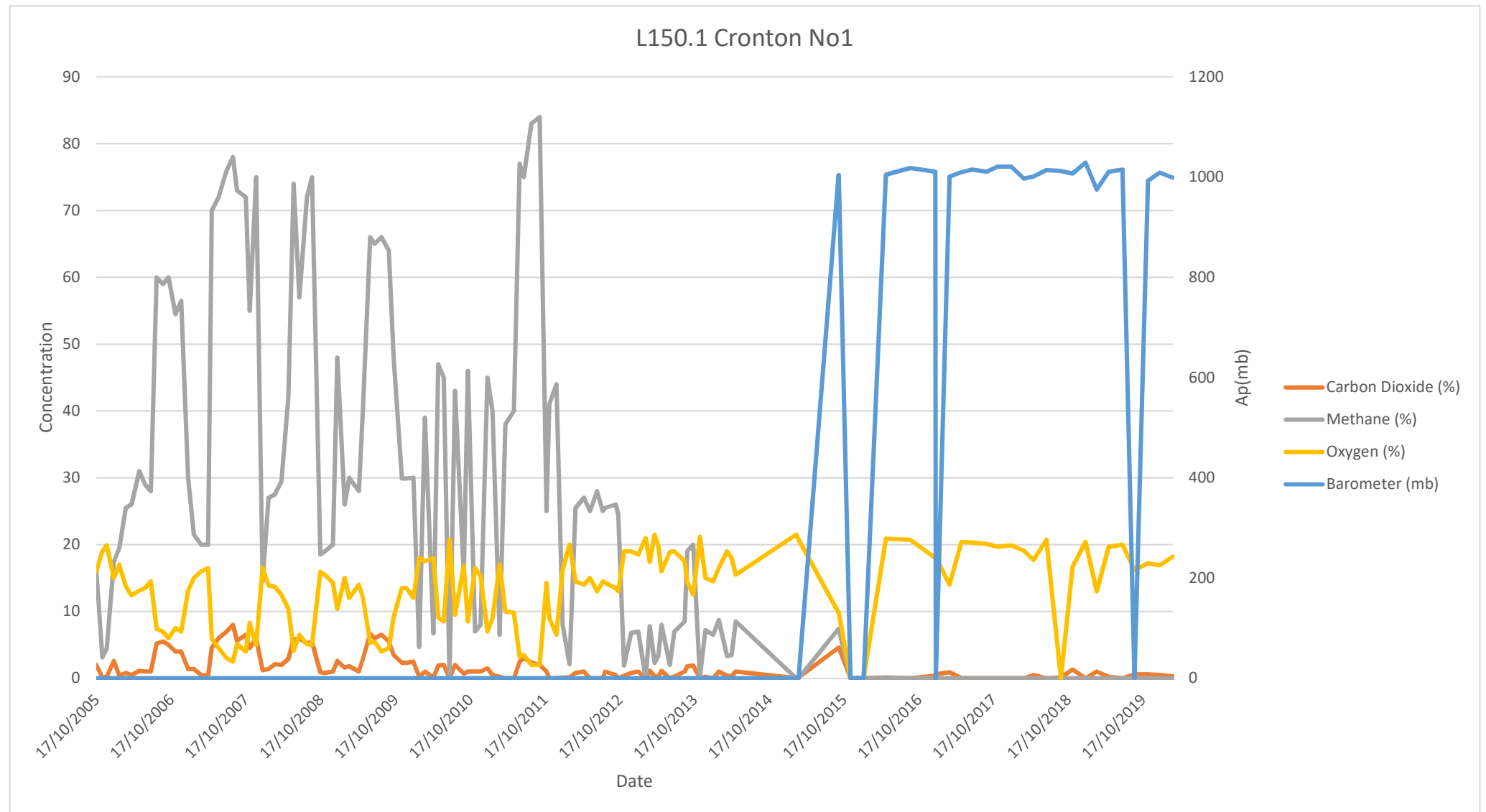
L150.1 is a mine gas vent installed through the shaft cap into Cronton No1 Shaft of the former Cronton Colliery. The vent was installed upon closure of the colliery to allow the safe discharge of mine gas to atmosphere.

The vent is approximately 5.5m high 200mm diameter and contained within a locked palisade compound around 5m x 5.5m.

Monitoring

The site is visited on a 2 monthly basis by contractors on behalf of the Coal Authority. During these visits spot readings are taken and concentrations of oxygen, carbon dioxide and methane are recorded and latterly atmospheric pressure.

Data



L150.2 Cronton No2 Shaft

Background

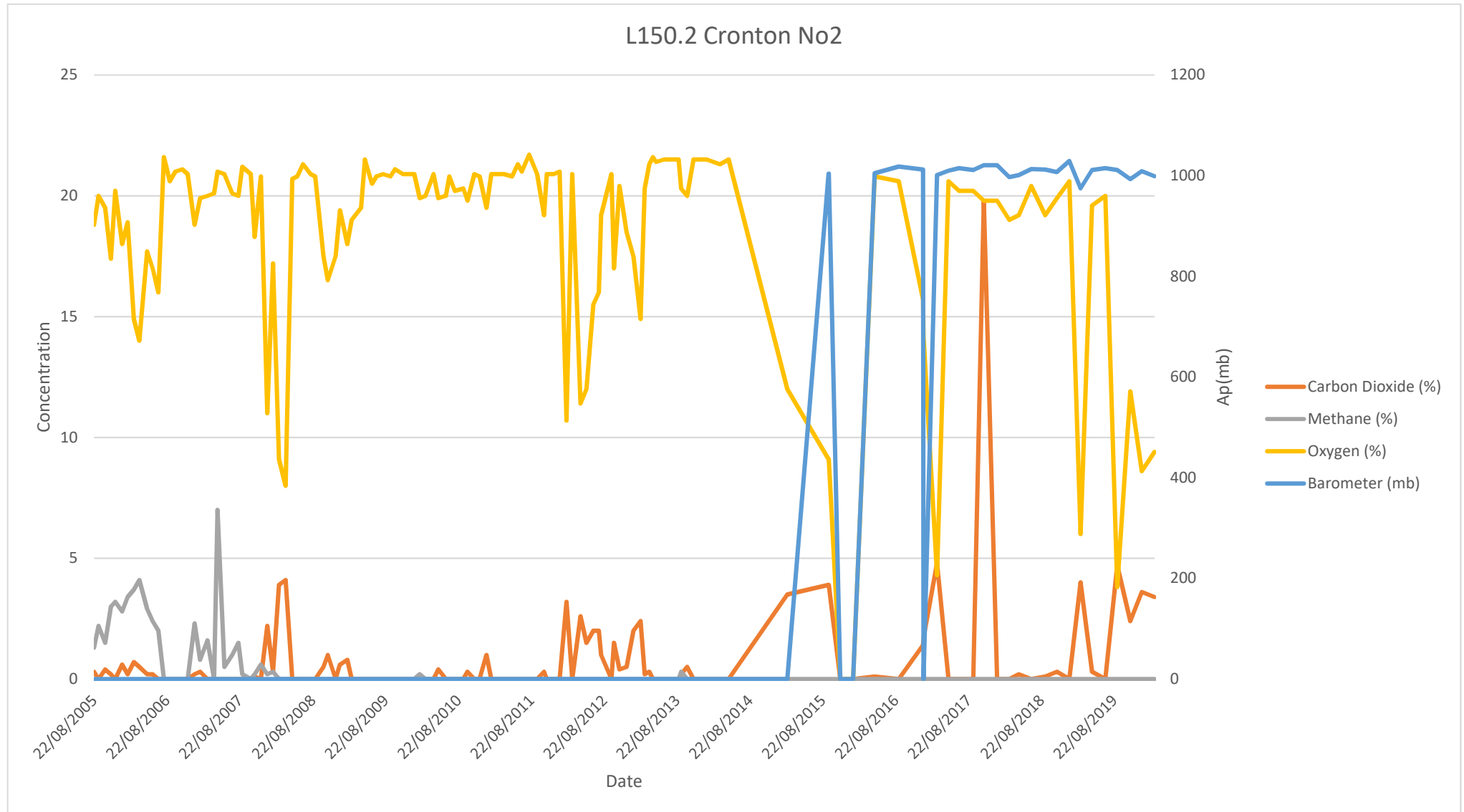
L150.2 is a mine gas vent installed through the shaft cap into Cronton No2 Shaft of the former Cronton Colliery. The vent was installed upon closure of the colliery to allow the safe discharge of mine gas to atmosphere.

The vent is approximately 5.5m high 200mm diameter and contained within a locked palisade compound around 5m x 5.5m.

Monitoring

The site is visited on a 2 monthly basis by contractors on behalf of the Coal Authority. During these visits spot readings are taken and concentrations of oxygen, carbon dioxide and methane are recorded and latterly atmospheric pressure.

Data



L150.3 Cronton No3 Shaft

Background

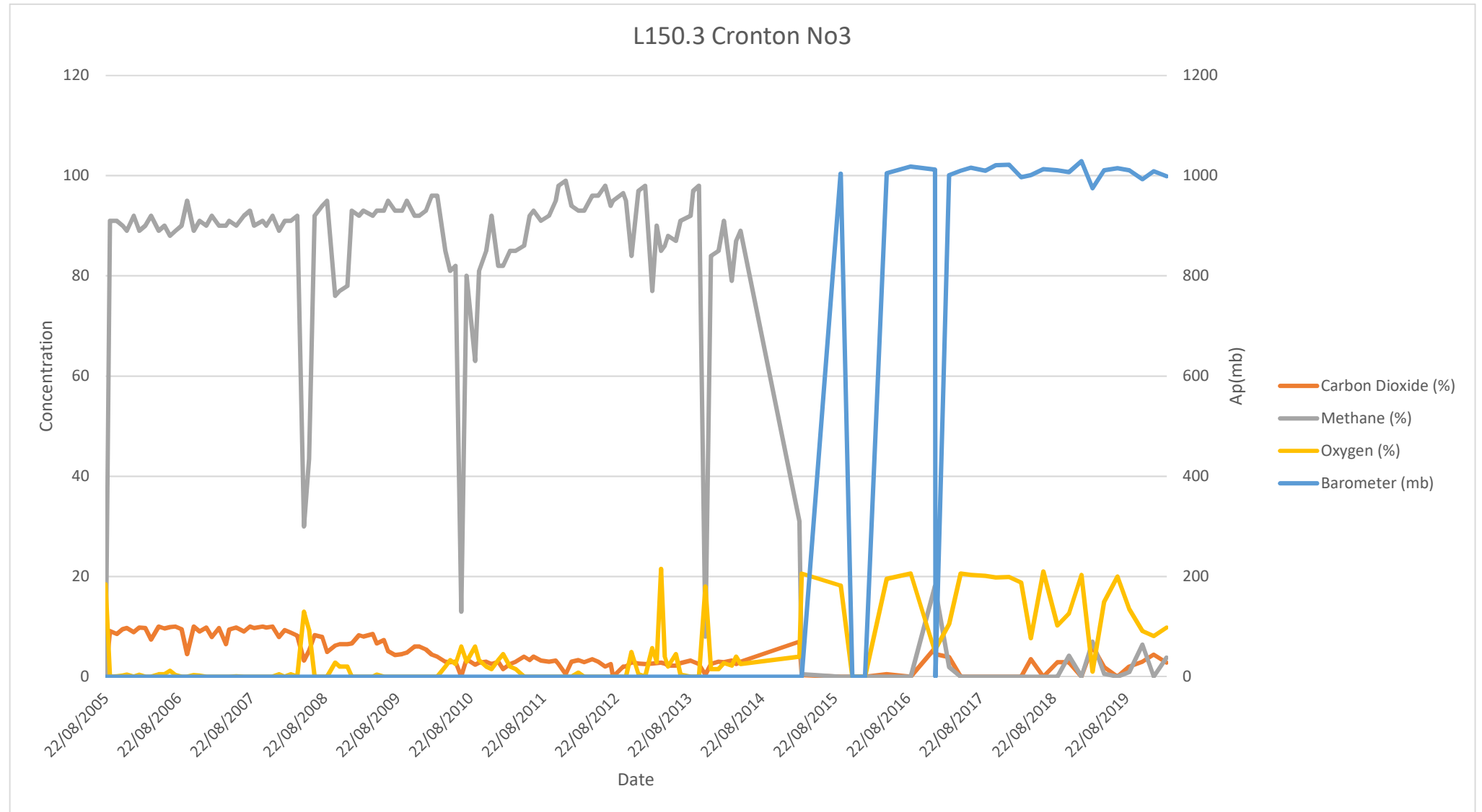
L150.3 is a mine gas vent installed through the shaft cap into Cronton No3 Shaft of the former Cronton Colliery. The vent was installed upon closure of the colliery to allow the safe discharge of mine gas to atmosphere.

The vent is approximately 5.5m high 200mm diameter and contained within a locked palisade compound around 5m x 5.5m.

Monitoring

The site is visited on a 2 monthly basis by contractors on behalf of the Coal Authority. During these visits spot readings are taken and concentrations of oxygen, carbon dioxide and methane are recorded and latterly atmospheric pressure.

Data



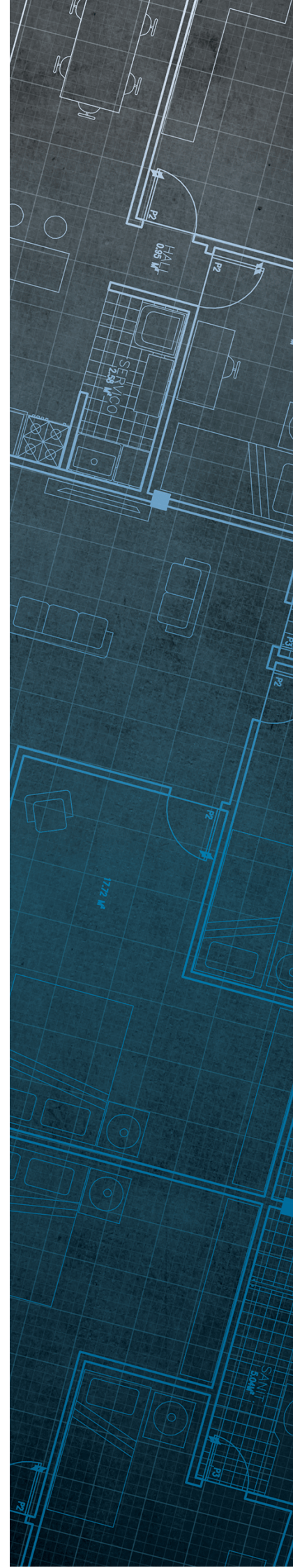


The Coal
Authority

Consultants Coal Mining Report

The Former Site Cronton Colliery
Site
Cronton Road
Cronton
Knowsley
L35 1QR

Date of enquiry:	16 January 2019
Date enquiry received:	16 January 2019
Issue date:	16 January 2019
Our reference:	51001982527001
Your reference:	TE1163 // PE02865



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

Tier Environmental

Enquiry address

The Former Site Cronton Colliery Site
Cronton Road
Cronton
Knowsley
L35 1QR

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2019. All rights reserved.

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	LONDON DELPH (BIN)	Coal	302N	85	Beneath Property	13.1	South-West	180	1925
unnamed	LONDON DELPH (BIN)	Coal	302M	94	Beneath Property	13.1	South-West	180	1922
unnamed	ST. HELENS YARD	Coal	302X	102	Beneath Property	11.3	South-West	90	1931
unnamed	RAMS	Coal	3033	128	Beneath Property	12.7	South-West	180	1958
unnamed	HIGHER FLORIDA	Coal	3036	132	Beneath Property	12.3	South-West	180	1924
unnamed	LOWER FLORIDA	Coal	303M	154	Beneath Property	13.6	South-West	130	1941
unnamed	HIGHER FLORIDA	Coal	3037	154	Beneath Property	11.5	South-West	180	1921
CRONTON	CROMBOUK E	Coal	302R	166	Beneath Property	13.4	South-West	190	1917
unnamed	LONDON DELPH (BIN)	Coal	302O	173	East	12.9	South-West	180	1930
unnamed	HIGHER PIGEON HOUSE (PIGEON HOUSE)	Coal	303T	180	Beneath Property	8.5	South-West	140	1936
unnamed	CROMBOUK E	Coal	302S	183	East	13.5	South-West	190	1939
unnamed	ST. HELENS YARD	Coal	302Y	200	South-East	13.4	South-West	90	1937
unnamed	HIGHER FLORIDA	Coal	3038	202	Beneath Property	15.5	South-West	180	1921
unnamed	HIGHER FLORIDA	Coal	3039	224	Beneath Property	12.8	South-West	180	1929
CRONTON	HIGHER FLORIDA	Coal	3035	224	West	11.3	South	180	1875
unnamed	LOWER FLORIDA	Coal	303O	266	South-East	12.8	South-West	130	1956
unnamed	WIGAN FIVE FEET	Coal	303U	267	Beneath Property	11.8	South-West	110	1948
unnamed	WIGAN FOUR FEET	Coal	303Z	278	Beneath Property	9.9	South-West	170	1944
unnamed	WIGAN FIVE FEET	Coal	303V	300	Beneath Property	12.3	South-West	110	1952
unnamed	HAIGH YARD	Coal	304F	370	Beneath Property	13.7	South-West	120	1949
unnamed	HAIGH YARD	Coal	304G	412	North-East	12.3	South	120	1930

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	RUSHY PARK	Coal	304M	415	Beneath Property	10.9	South-West	130	1946
unnamed	RUSHY PARK	Coal	304J	423	North	12.0	South	130	1889
unnamed	PLODDER	Coal	304D	430	Beneath Property	11.6	South-West	330	1930
unnamed	RUSHY PARK	Coal	304L	435	North-East	13.4	South-West	130	1896
unnamed	RUSHY PARK	Coal	304K	446	North	12.0	South	130	1896
unnamed	PLODDER	Coal	304C	446	South-West	11.6	South-West	330	1958
unnamed	HAIGH YARD	Coal	304E	448	Beneath Property	9.6	South-West	120	1943
unnamed	HAIGH YARD	Coal	304H	450	South	12.3	South	120	1952
unnamed	RUSHY PARK	Coal	304N	454	Beneath Property	9.6	South-West	130	1939
unnamed	HAIGH YARD	Coal	30CJ	465	South	11.4	South-West	120	1942
unnamed	RUSHY PARK	Coal	304I	483	North-West	9.5	South	130	1889
unnamed	RUSHY PARK	Coal	30CL	520	South	11.2	South-West	130	1935
unnamed	RUSHY PARK	Coal	30CM	558	South-East	9.1	South-West	130	1962

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	347389-001	347423 389347	This shaft was filled grouted and capped by the National Coal Board in 1985 and is monitored on a two monthly basis for gas by The Coal Authority or a representative thereof	Coal	
Shaft	347389-002	347421 389324	This shaft was filled grouted and capped by the National Coal Board in 1985 and is monitored on a two monthly basis for gas by The Coal Authority or a representative thereof	Coal	
Shaft	347389-003	347418 389300	This shaft was filled in September 1969 and later grouted and capped by the National Coal Board in 1985. It is monitored on a two monthly basis for gas by The Coal Authority or a representative thereof	Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

NW368	NW727	NW803
3671	NW638	11793
16566	12635	NW822

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
WORSLEY FOUR FEET	Coal	Yes	Within	N/A	132

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

Distance to gas incident/remediation (m)	Direction
3.8	North
1.1	South
14.4	East

See Section 4 for further information.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is in an area where a notice to withdraw support was given in 1976.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

Mine gas remedial works

The site is within an area of previous interest. It is close to where the Coal Authority has investigated and subsequently remediated the effects of mine or ground gas emissions following specific reported hazards.

The site requires further investigation and may influence your risk assessment. We recommend that you order the **Coal Authority Mine Gas Emission Report**, which will include more information about the hazard.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
Website: www.groundstability.com Phone: 0345 762 6848

**TIER ENVIRONMENTAL
CHADWICK HOUSE
WARRINGTON ROAD
WARRINGTON
WA3 6AE**

Our reference:	51002292419001
Your reference:	TE1163
Date of your enquiry:	04 August 2020
Date we received your enquiry:	04 August 2020
Date of issue:	06 August 2020

This report is for the property described in the address below.

Mine Gas Emissions Report

HALSNEAD FARM, FOXS BANK LANE, CRONTON, KNOWSLEY, L35 3SU

I refer to the enquiry dated 04 August 2020, received 04 August 2020, in connection with the above.

I acknowledge receipt of your request and payment of £133.37 inclusive of VAT.

As requested, I enclose details of the Mine Gas Emission report.

Yours faithfully,

S Leeming.

Principal Manager, Information Management

This matter was dealt with by Rachel Norton

Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Tax Point Date:	04 August 2020
Issued to:	TIER ENVIRONMENTAL CHADWICK HOUSE WARRINGTON ROAD WARRINGTON WA3 6AE
Property Search for:	HALSNEAD FARM, FOXS BANK LANE, CRONTON, KNOWSLEY, L35 3SU
Reference Number:	51002292419001
Date of Issue:	06 August 2020
Cost:	£111.14
VAT @ 20%:	£22.23
Total Received:	£133.37
VAT Registration	598 5850 68

GENERAL CONDITIONS OF CONTRACT FOR THE SUPPLY OF MINING INFORMATION

1. In the General Conditions, the Coal Authority is referred to as the CA and the Company, firm or person to whom the information and/or material is to be supplied is referred to as the Purchaser. The supply of any information and/or material by the CA to the Purchaser shall be subject to these General Conditions of Contract.

2. The following should be taken into account by the Purchaser when making use of any information and/or material supplied.

(1) The information supplied is constantly updated. The CA will supply the Purchaser with the most up to date information and/or material at the time of supply, but give no warranty or representation that such information and/or material will not become obsolete or incorrect over any period of time.

(2) Information supplied should not be enlarged to any greater scale than that at which it is supplied or accuracy will be affected.

3. The information and/or material supplied is composed from data based in many cases on measurements and records of various standards of reliability and age. Under no circumstances should the information and/or material be relied on as the sole or major basis for any production, construction or financial decisions. The CA make no financial decisions. The CA make no representations and do not warrant the accuracy or completeness of the information and/or material.

4.(1) Subject to sub-clause 3 of this Condition, the CA shall indemnify the Purchaser against all and any claims for loss or damage suffered or expense incurred arising out of death or personal injury to any person to the extent that such death or injury results from negligence in the supply of the information and/or material by the CA or its employees.

(2) Save as set out in the sub-clause 1 of this Condition, the CA 's liability to the purchaser for the loss or damage suffered or expenses incurred to persons and property arising directly or indirectly from the supply of the information and/or material by the CA and/or its interpretation by the Purchaser or any third party shall be limited to a sum equal to the total sum payable by the Purchaser to the CA for the supply of information and/or material; but there shall be no liability whatsoever on the CA (save as set out in sub-clause 1) where the information and/or material is supplied free of charge.

(3) In any event, the CA shall not be liable for any indirect economic loss (including, but not limited to, loss of profits, loss of value, loss of contracts, loss of production or wastage of labour) arising directly or indirectly out of the supply of the information and/or material and/or its use or interpretation by the Purchaser or any third party.

(4) The Purchaser shall fully indemnify the CA and its employees against all and any claims for loss or damage suffered or expense incurred save for death or personal injury resulting from the CA's negligence (but including any indirect or consequential loss or damage to CA property) arising directly or indirectly from the supply of the information and/or material by the CA and/or its use or interpretation by the Purchaser or any third party.

(5) The Purchaser shall insure his liabilities under this Condition with an insurer acceptable to the CA and shall, if required by the CA, produce satisfactory evidence that such a policy of insurance has been affected and maintained in full.

5.(1) Copyright in any information supplied remains with the CA and the

Purchaser shall only use the information and/or material for the purpose of the assignment to which their request for information and/or material relates.

(2) All information and/or material and any interpretation thereof shall be kept strictly confidential and shall not be supplied to any third party (or any employee or member or officer of the Purchaser not directly employed by the Purchaser in the assignment to which the request for information and/or material relates) without the written consent of the CA. Any Consent shall be on such conditions as the CA thinks fit.

(3) The information and/or material or any interpretation thereof shall not be published by the Purchaser (or any employee not directly employed by the Purchaser in the assignment to which the request for information relates) either independently or as part of any other document without the prior written consent of the CA. Any consent shall be on such conditions as the CA thinks fit.

(4) The Purchaser shall maintain such security as is necessary to ensure that it complies with its obligations under this Condition and that the information and/or material and any interpretation thereof remains secure and is not obtained by any person not directly employed by the Purchaser in the assignment to which their request for information relates, without the Purchaser's knowledge.

6. Unless payment is made in advance, the CA shall issue an invoice to the Purchaser on supply of the information and/or material and payment shall be made by the Purchaser to: Finance Department, The Coal Authority, 200 Lichfield Lane, Berry Hill, Mansfield, Notts, NG18 4RG within 30 days from the date of the invoice. Any sums outstanding after 30 days shall bear interest, at the rate of 5% per annum above the Lloyds TSB Bank PLC base, from the date of the invoice to the date of actual payment. In the event that payment is not made within 30 days from the date of invoice, the CA shall have the absolute right to require the return of the information and/or material forthwith by written notice.

7. Copies of any results from tests on materials, or based on information, supplied by the CA will be made available to the CA free of charge.

8. The Purchaser shall ensure that these General Conditions (and in particular Conditions 2, 3 and 5) are brought to the attention of any of its employees using the information and/or material and any other person to whom the information and/or material is disclosed with the consent of the CA.



The Coal
Authority

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
Website: www.groundstability.com Phone: 0345 762 6848

**TIER ENVIRONMENTAL
CHADWICK HOUSE
WARRINGTON ROAD
WARRINGTON
WA3 6AE**

Our reference:	51003256385001
Your reference:	TE1163
Date of your enquiry:	28 July 2022
Date we received your enquiry:	28 July 2022
Date of issue:	28 July 2022

This report is for the property described in the address below and the attached plan.

Shaft Plan and Data Sheets

1, HALSNEAD VILLAS, FOXS BANK LANE, CRANTON, KNOWSLEY, L35 3SU

I refer to the enquiry dated 28 July 2022, received 28 July 2022, in connection with the above.

As requested I enclose the mine entry data sheet(s) held for the mine entry/entries referred to.

Mine Entry Data

Shaft/adit:	Shaft
Reference:	347389-003
Source:	OS:1/2500 scale 3rd edition Ab Plans 10416 14235 NW201 NW638 NW368 NW689 14155 14187 12635 NW686 NW757 11564 10958 NW695 NW690 NW754 NW495 NW535 11793 NW174 NW727 NW637 NW593 NCB Plans 13 14 15 16 17 Geological 1/10560 scale 1/4 sheet
Colliery name:	CRONTON
Entry name:	No 1 Shaft
Date abandoned:	1-Jan-1984
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	220.4
Diameter of shaft (m):	4.57
Probable adit azimuth:	Not Applicable
Treatment details:	This shaft was filled in September 1969 and later grouted and capped by the National Coal Board in 1985. It is monitored on a two monthly basis for gas by The Coal Authority or a representative thereof
Conveyance:	Not Applicable
Easting:	347418
Northing:	389300
Other information:	Yes

Mine Entry Data (continued)

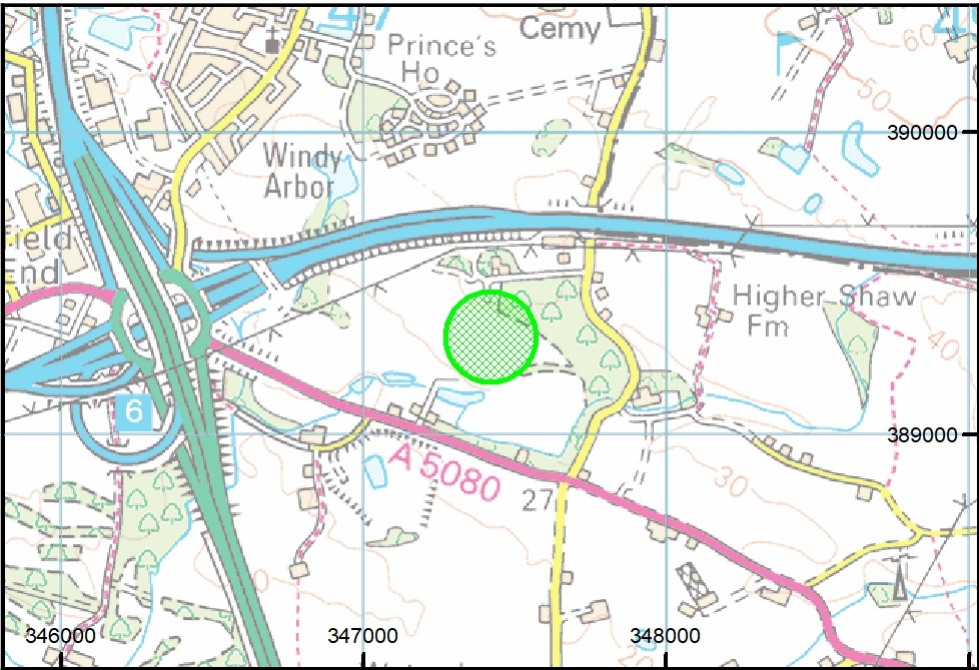
Shaft/adit:	Shaft
Reference:	347389-002
Source:	OS:1/2500 scale 3rd edition Ab Plans 10416 14235 NW201 NW638 NW368 NW174 14155 NW689 14187 12635 NW368 NW757 11564 10958 NW695 NW636 NW756 NW495 NW690 NW585 11793 NW174 NW 727 NW 637 NW 598 NCB 13.14.15.16.17 Geological 1/10560 scale 1/4
Colliery name:	Unknown
Entry name:	Cronton Colliery No 2 Shaft
Date abandoned:	1-Jan-1984
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	516.8
Diameter of shaft (m):	6.4
Probable adit azimuth:	Not Applicable
Treatment details:	This shaft was filled grouted and capped by the National Coal Board in 1985 and is monitored on a two monthly basis for gas by The Coal Authority or a representative thereof
Conveyance:	Not Applicable
Easting:	347421
Northing:	389324
Other information:	Yes

Mine Entry Data (continued)

Shaft/adit:	Shaft
Reference:	347389-001
Source:	OS:1/2500 scale 3rd edition Ab Plans 10416 14235 NW201 NW638 NW368 NW174 14155 14187 NW683 12635 NW368 NW757 11564 10958 NW695 NW636 NW756 NW495 NW690 NW585 11793 NW727 NW637 NW593 NCB Plans 13 14 15 16/7 Geological 1/10560 scale 1/4 sheet
Colliery name:	Unknown
Entry name:	Cronton Colliery No 3 Shaft
Date abandoned:	1-Jan-1984
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	485.3
Diameter of shaft (m):	6.4
Probable adit azimuth:	Not Applicable
Treatment details:	This shaft was filled grouted and capped by the National Coal Board in 1985 and is monitored on a two monthly basis for gas by The Coal Authority or a representative thereof
Conveyance:	Not Applicable
Easting:	347423
Northing:	389347
Other information:	Yes

Location map

Approximate position of enquiry



Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2018. All rights reserved.
Ordnance Survey Licence number: 100020315

This plan shows the approximate location of the disused mine entry / entries referred to in the attached mining report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting www.groundstability.com.

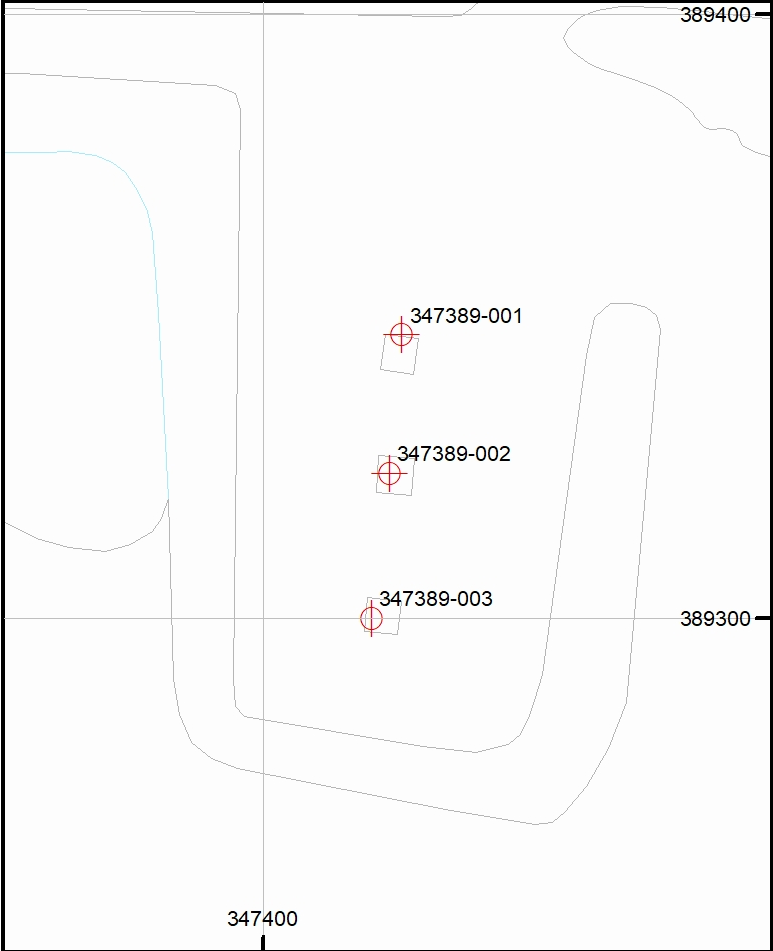
If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken, these are available to view, free of charge, at our Head Office in Mansfield. To book an appointment please ring 01623 637225. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission of the owner must be sought. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries).

Our emergency telephone number is 0800 288 4242.

Key

Disused Adit or Mineshaft



The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Outcrop (Conjectured) 
- Geological faults 
- Mine gas remedial works 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

