

**Tier Environmental Ltd**

Chadwick House, Warrington Road, Birchwood
Park, Warrington, WA3 6AE
01925 818 388

TECHNICAL NOTE

Former Cronton Colliery - Mine Shaft Cap Investigation - Coal Authority Permit No. 25578

Client:	Tritax Symmetry Ltd	Version:	Final
Reference:	TE1163-TE-00-XX-TN-GE-002-V03	Author:	Eve Rowland
Date:	11/08/2023	Approved:	Sean Lee

1 Introduction

Tier Environmental were commissioned by Tritax Symmetry Ltd to conduct a ground investigation at the former Cronton Colliery, located off Cronton Road (A5080), L35 1QR. The purpose of this investigation was to determine the presence and depths of 3 No. caps on historic coal mine shafts located on site and to determine the nature of the backfill material above the caps. The mine shafts were deep (500m) shafts that were used during the life of the colliery to extract the coal from the sub surface, following the closure of the colliery in the 1980's the shafts were backfilled with spoil and capped with concrete. Vents were placed on top to vent any gases that accumulated in the backfilled shafts. Following this the shafts had no further uses and have been left in perpetuity.

It is proposed that ground levels are to be reduced in this area to approximately 34.5m AOD in the north and 33.6m AOD in the south (see Drawing No. L005-TIE-ZZ-XX-DR-C-6007 Rev T10 presented in Appendix A). All works will not affect the integrity of the mine shafts or caps.

The investigation was undertaken under Coal Authority Permit No. 25578 and comprised 1 No. day window sample drilling and dynamic probing in targeted locations around the perimeter of the shafts to identify the depth and extent of the shaft caps.

A representative from the Coal Authority was also on-site at the commencement of the works and was satisfied with our methods of working.

2 Information Obtained from the Coal Authority

Tier Environmental have liaised with the Coal Authority to obtain relevant information regarding the decommissioning and treatment of the shafts following the closure of the colliery.

Coal Authority records indicate the following:



- Shaft 1 (the southern shaft) was 4.57m in diameter and was 220.4m deep. Backfilled in 1969 then grouted and capped in 1984/5 by the National Coal Board (NCB).
- Shaft 2 (central shaft) was 6.40m in diameter and 519.1m deep. Backfilled, grouted and capped in 1984/5 by the NCB.
- Shaft 3 (northern shaft) was 6.40m diameter and 485.3m deep. Backfilled, grouted and capped in 1984/5 by the NCB.

The Coal Authority records indicate mine gas emissions were encountered within all three shafts during the filling/capping works. Ventilation pipes were subsequently installed and are currently monitored every two months by/on behalf of the Coal Authority. The vents are approximately 5.5m high, 200mm diameter and contained within a locked palisade compound around 5m x 5.5m.

No records have been provided regarding the thickness, width or level of the caps. It is therefore assumed they are double the diameter of the respective shafts:

- Shaft 1 (southern shaft) – Approximately 9m diameter cap.
- Shaft 2 (central shaft) – Approximately 12.4m diameter cap.
- Shaft 3 (northern shaft) – Approximately 12.4m diameter cap.

Historic Ordnance Survey plans indicate a ground level of 36.0m AOD in the vicinity of Shaft No. 3 and a Benchmark of 36.48m AOD on the adjacent colliery building.

Some of the previous Tier exploratory holes within the vicinity of the shafts encountered Till from approximately 32m and 33m AOD.

The records provided by the Coal Authority indicate surface levels of 33.1m AOD for Shaft No. 1 and 33.5m AOD for Shaft No. 2 and the following decking levels:

- Shaft No. 1 – 33.1m AOD
- Shaft No. 2 – 35.8m AOD
- Shaft No. 3 – 36.3m AOD

Coal Authority records indicate that following infilling of Shafts 2 & 3, their levels were to be reduced by approximately 12ft to 15ft (3.6m to 4.6m) to the same level as Shaft No. 1.

The shaft treatment records indicate that the concrete caps included 40mm diameter reinforcement.

Based on the information outlined above, it was considered that the caps to the 3 No. shafts are likely to be at a depth of approximately 3m – 4m bgl and diameters of between 10m (Shaft No. 1) and 13m (Shafts 2 & 3); they are therefore likely to extend beyond the existing hardstanding compounds/palisade fencing.



The following scope of works were therefore proposed:

- Window sampling and dynamic probing around the periphery of the compound areas (outside of the palisade fencing) to confirm the presence of the concrete caps at depth. The window sampler/dynamic probe will refuse on the concrete slab and will not cause any detrimental effects on the caps. We have these programmed for Tuesday 13th September.
- Lifting of the existing inspection covers present within each compound area (see attached photograph) to determine the potential presence of any voids.

3 Mine Shaft Cap Depths and Backfill Materials

Gas monitoring was undertaken by Tier during the entire works using a GA5000 to determine the potential presence of hazardous ground gases (methane, carbon dioxide, hydrogen sulphide and carbon monoxide).

Whilst on Site, a representative of the Coal Authority monitored the works undertaken by Tier. Access was granted by the Coal Authority to enter the palisade fencing surrounding the ventilation pipes of all three shafts. Manhole covers are present next to each ventilation pipe; the cover on Shaft No. 1 was able to be lifted and revealed a flooded manhole ring chamber (see photograph 3.1 below). This was measured to a depth of 3.20m bgl (~32.9m AOD), and is considered to be the top of the shaft cap. The manhole covers on shafts 2 and 3 were unable to be lifted.

Photograph 3.1. Vent pipe from Shaft No. 1 within inspection chamber (manhole rings).





Tier Environmental initially conducted 2 No. window sample boreholes on the northern and southern side of each shaft 1m away from the palisade fencing to identify the depths of the shaft caps. Ground conditions above the shaft caps generally comprised of a dark blackish brown, slightly sandy to sandy, slightly clayey to clayey, fine to coarse, angular to subrounded gravel of brick, shale, coal, mudstone, clinker and rare limestone and concrete. Rare cobbles of brick were also encountered. Table 3.1 below summarises the findings of these initial window samples.

Table 3.2. Summary of Initial Boreholes to Identify Cap Depths.

Shaft	Borehole ID	Location	Depth of refusal (shaft cap)
One (southern shaft)	MSS-WS01	1.00m north of palisade fence	3.20m bgl (~33.0m AOD)
One (southern shaft)	MSS-WS02	1.00m south of palisade fence	3.20m bgl (~32.7m AOD)
Two (central shaft)	MSC-WS01	1.00m north of palisade fence	3.40m bgl (~33.0m AOD)
Two (central shaft)	MSC-WS02	1.00m south of palisade fence	3.40m bgl (~32.8m AOD)
Three (northern shaft)	MSN-WS01	1.00m north of palisade fence	2.20m bgl*
Three (northern shaft)	MSN-WS02	1.00m south of palisade fence	3.40m bgl (~33.2m AOD)
Three (northern shaft)	MSN-WS03	1.00m north of palisade fence	3.40m bgl (~33.2m AOD)

**this is not interpreted to be a refusal on the cap; details of this refusal are explained below.*

The depth of refusals encountered in the boreholes for Shaft No. 1 generally concur with the depth of the cap measured through the manhole chamber (3.2m bgl or 32.9m AOD).

Based on the results of the 2 No. window samples conducted on the Shaft No. 2 (central shaft), the depth of the cap was identified to be 3.40m bgl (approximately 33m AOD) based on current ground levels on Site.

Variability was encountered on the depth of refusal for Shaft No. 3. In MSN-WS02 on the southern side of Shaft No. 3, refusal was encountered at 3.40m bgl, however on the northern side (MSN-WS01) refusal was at 2.20m bgl. As these depths did not correlate with each other, and the northern refusal depth was shallower than the expected depth of the cap, it is assumed that this shallow refusal was the result of a cobble within the colliery spoil. An extra borehole 1m north of Shaft No. 3 (MSN-WS03) was conducted to the west of MSN-WS01, where a refusal depth of 3.40m bgl was identified correlating with MSN-WS02.

4 Extent of Shaft Caps

Shaft No. 1 (Southern Shaft)

Shaft No. 1 in the south was deemed to be the most pertinent to this investigation as levels will be reduced in that area to accommodate of a new retaining wall adjacent to a proposed highway. Due to this, further investigation was conducted upon the completion of the initial boreholes to try to ascertain the extent of the shaft cap.



Dynamic probes were conducted at 1m intervals from the initial borehole north of Shaft No. 1. A refusal was encountered 2m away from the shaft fencing on the cap, however, 3m away from the fencing, the dynamic probe (MSS-DP2) advanced deeper than the cap depth. A window sample borehole (MSS-WS3) was subsequently conducted in the same place to determine the nature of natural soils beneath the colliery spoil. Weathered bedrock (mudstone) of the Pennine Lower Coal Formation was encountered at 3.82m bgl.

Dynamic probes at 1m intervals were also conducted to the east of Shaft No. 1. A dynamic probe conducted 2m east of the fence line refused at 3.20m bgl, the depth of the cap, however the probe (MSS-DP4) conducted at 3m from the fence did not refuse. As with the northern edge of Shaft No. 3, a window sample hole (MSS-WS4) was conducted 3m away from the fence line adjacent to MSS-DP4 to confirm natural soils; mudstone was encountered at 3.65m bgl.

Probing to determine the southern extent of Shaft No. 1 could not be conducted due to access restrictions.

Based on these results, the northern and eastern edges of the shaft cap are located between 2m and 3m from the edge of the palisade fence line of Shaft No. 1.

Shaft No. 3 (Northern Shaft)

A similar approach was used for the northern Shaft No. 3 to identify the edge of the cap. Due to this shaft having a larger diameter of 6.4m, as shown on Coal Authority records, the first dynamic probe was conducted at 3.90m from the northern fence line. Refusal on the cap was encountered on probes at 3.90m, 4.90m and 5.50m (MSN-DP1 to MSN-DP3) to the north of the fence line.

A fourth dynamic probe (MSN-DP4) was conducted 7.50m north of the shaft fence line which refused at 2.10m bgl. As with the first window sample hole (MSN-WS01), this refusal was assumed to be a cobble within the colliery spoil. A fifth dynamic probe (MSN-DP5) was therefore conducted 8.50m north of the shaft fence line, however this also refused at 2.10m bgl. Based on these 2 No. refusals, both at 2.10m bgl, it is considered that these dynamic probes probably refused on historic foundations/obstructions associated with the former colliery; further confirmatory investigation would need to be conducted to verify this.

Based on these results, the edge of the cap to Shaft No. 3 is located between 5.50m and 7.50m north of the palisade fence.

5 Conclusions and Recommendations

This technical note provides preliminary information with regard to the depth and extent of the caps for all three mineshafts:

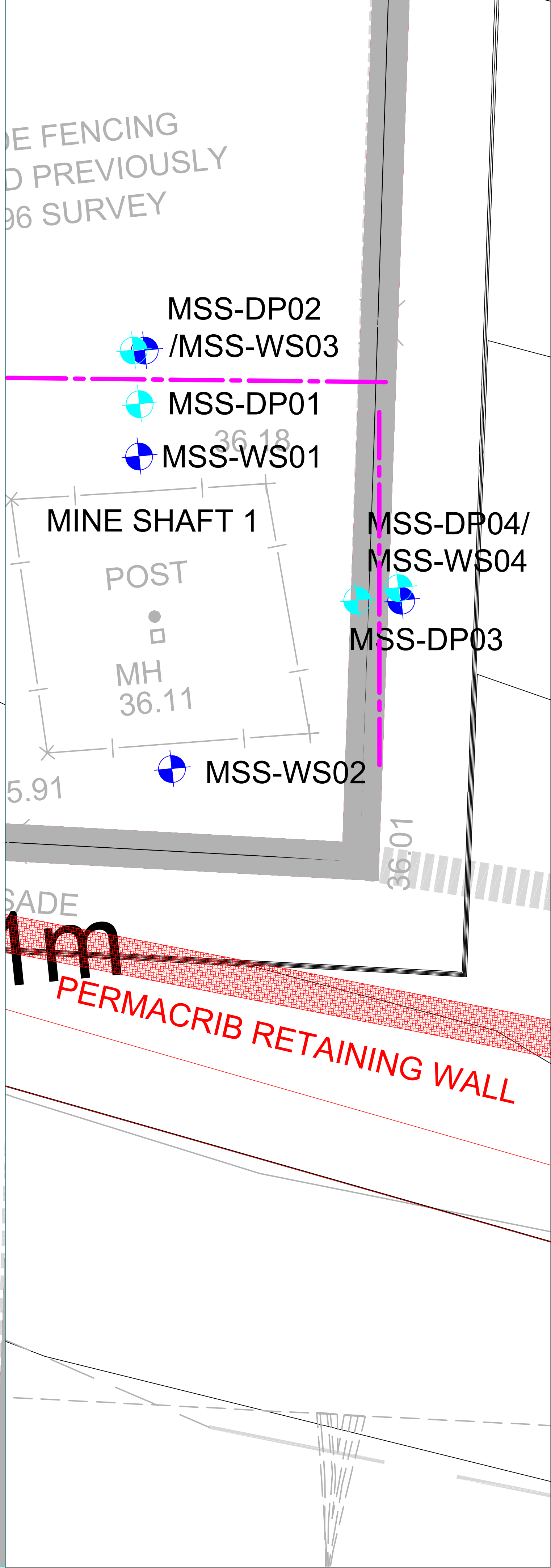
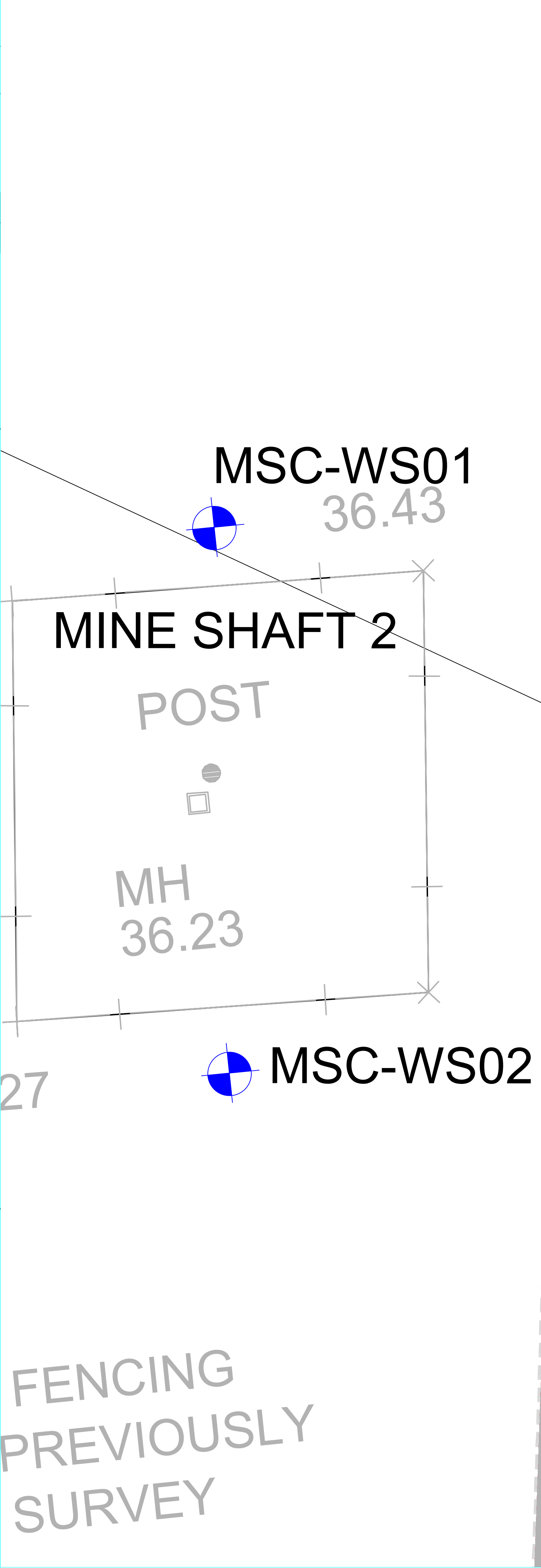
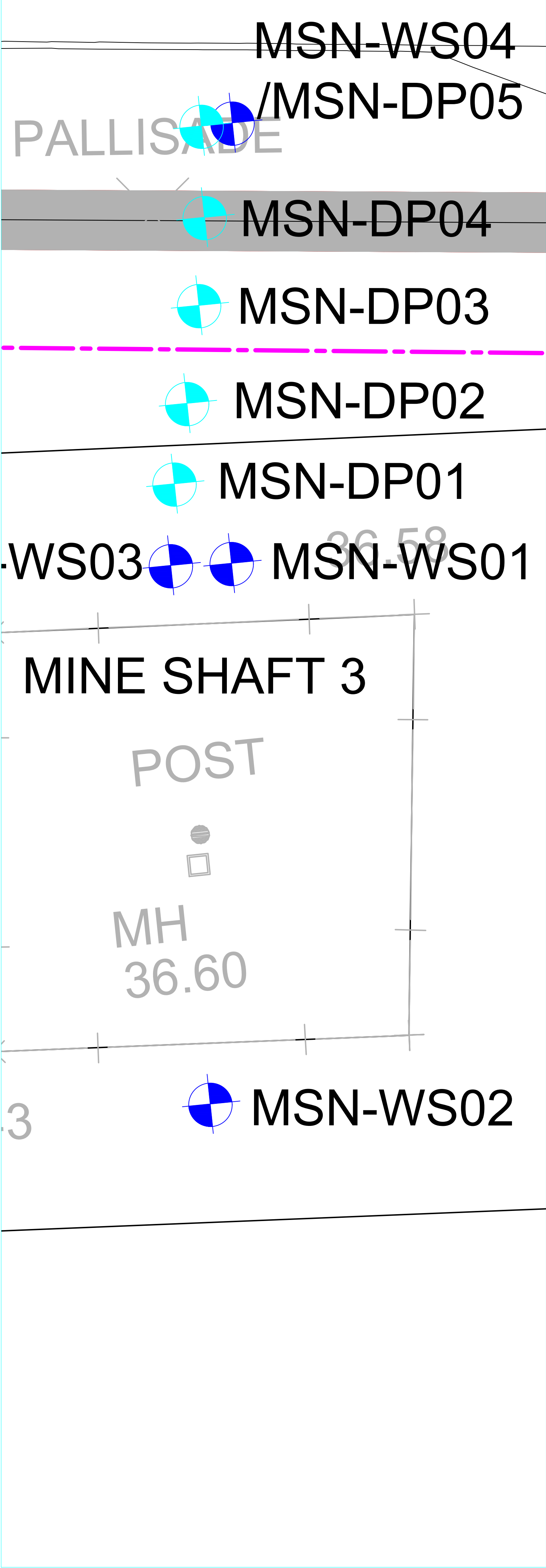


- Shaft No. 1 (southern shaft) - This was measured to a depth of 3.20m bgl (approximately 32.9m AOD). The cap extends to between 2m and 3m from the northern and eastern palisade fence lines.
- Shaft No. 2 (central shaft) – The cap was encountered at was encountered at 3.40m bgl (approximately 32.9m AOD).
- Shaft No. 3 (northern shaft) – The cap was recorded at 3.40m bgl (approximately 33.2m AOD) and extended to between 5.50m and 7.50m from the northern palisade fence line. Potential additional works may be needed to determine this as bedrock was not encountered.
- The shaft caps appear to have been installed on bedrock.
- The vent stacks appear to have been installed through inspection chambers constructed on top of the shaft caps. The majority of the soils above the caps (and around the inspection chambers) generally comprises colliery spoil.
- It is not known whether the ground levels over the caps were raised during the mid-late 1980s immediately following the closure of the colliery or during the subsequent regrading works that were undertaken during 1995. The detailed design and construction of the caps is not known therefore it is not possible to determine whether the caps were designed and constructed to accommodate approximately 3.2m of soils/overburden.
- The proposed reduction in ground levels to approximately 34.5m AOD in the north and 33.6m AOD in the south (see Drawing No. L005-TIE-ZZ-XX-DR-C-6007 Rev T10 presented in Appendix A) over the shafts should not have a detrimental effect on the structural integrity of the cap. Indeed, the reduction in overburden to between 0.9m and 1.2m and the associated reduced pressure/load should be beneficial.
- During the proposed regrading works, no excavators or heavy plant will be permitted to traffic directly over the caps.
- The vent stacks and associated inspection chambers would need to be reduced in height by and/or to the satisfaction of the Coal Authority.
- All detailed designs will be agreed with the Coal Authority in accordance with Technical Guidance Note: TGN02, including obtaining permits to enter the land within the Coal Authority's ownership.
- Full time gas monitoring will be required during the proposed works.



APPENDIX A – DRAWINGS AND FIGURES





Notes

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS TOGETHER WITH THE APPROPRIATE SPECIFICATIONS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK ALL DIMENSIONS ON SITE. DIMENSIONS MUST NOT BE SCALED FROM THIS DRAWING. ANY DISCREPANCIES TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT IN WRITING.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- ALL LEVELS ARE IN METRES, UNLESS NOTED OTHERWISE

MSN = Mine Shaft North

MSC = Mine Shaft Central.

MSS = Mine Shaft South

Dynamic Probe Location

Window Sample Location

Approximate location of edge of shaft cap

1

20.09.22

ER

Mine Shaft Investigation location plan

AP

Rev	Date	By	Description	Appd
Revisions				
Status				
FINAL				

TIER

CONSULT

Tier Environmental Ltd.

Chadwick House

Warrington Road

Birchwood

Warrington | Wa3 6AE

t: 01925 818388

Client

TRITAX_SYMMETRY_LTD

Project

FORMER_CRONTON_COLLIERY

Title

MINE_SHAFT_EHLP

Scale

DNS

Drawn

ER

Revision

1

Date

20.09.22

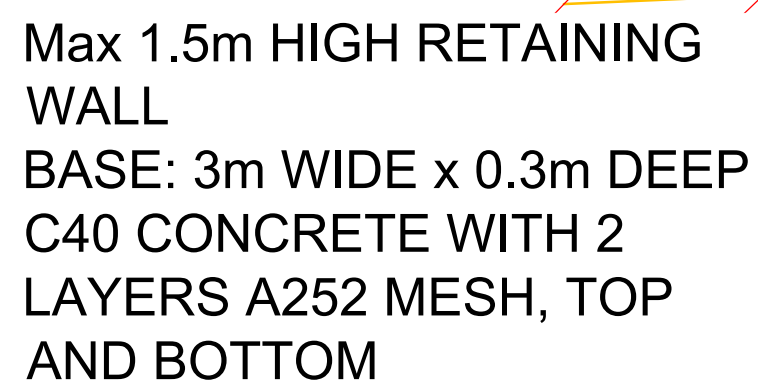
Checked

AP

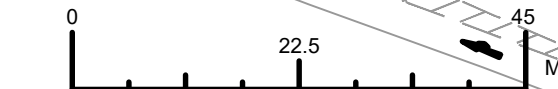
Drawing Ref: TE1163-TE-00-XX-DR-GE-002-V01

TE1163

002



Max 1.5m HIGH RETAINING WALL
BASE: 3m WIDE x 0.3m DEEP
C40 CONCRETE WITH 2 LAYERS A252 MESH, TOP AND BOTTOM



Proposed Levels

Diagram illustrating the proposed pond and embankment structure. The diagram shows a cross-section with the following details:

- PROPOSED EXTENT OF POND:** Indicated by a horizontal line at the top of the pond area.
- 1.3m MAINTENANCE STRIP:** Indicated by a horizontal line above the pond area.
- TO EXISTING GROUND LEVEL:** Indicated by a horizontal line at the top of the embankment area.
- 1.3 EMBANKMENT:** Indicated by a horizontal line at the top of the embankment area.
- BASE LEVEL 39.998:** Indicated by a horizontal line at the bottom of the pond area.
- EXISTING GROUND:** Indicated by a dashed line representing the ground level before construction.
- Level:** The vertical axis is labeled 'Level' and ranges from 36 to 50.

Horizontal Geometry

Level

50
49
48
47
46
45
44
43
42
41
40
39
38
37
36

1.7m MAINTENANCE STRIP

PROPOSED EXTENT OF POND

1.3 39.696 1.3

BASE LEVEL

EXITING GROUND

TENDER

TIER CONSULT

Client

TRITAX SYMMETRY HI

Horizontal Geometry

Legend

 DEEP BASINS

 FOOTPATHS DESIGNED BY OTHERS



TIER
CONSULTING

TIER Project No: T_18_212
Drawing Ref: L005-TIE-ZZ-XX-DR-C-6007



APPENDIX B – EXPLORATORY HOLE LOGS



Borehole Log

Borehole No.
MSC WS01
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

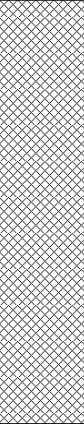
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.40	ES		0.60			MADE GROUND: Firm, light yellowish brown and black gravelly CLAY. Gravel is fine to coarse, angular to subangular of mudstone, coal and brick.	
								MADE GROUND MADE GROUND: Dark brownish black, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subangular of brick, coal, clinker, shale and mudstone. Rare brick cobbles. MADE GROUND	1
					3.40			End of borehole at 3.40 m	2
									3
									4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 1m from fence. 3) Northern. 4) Terminated at 3.40 due to refusal on cap.





Borehole Log

Borehole No.
MSC WS02
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

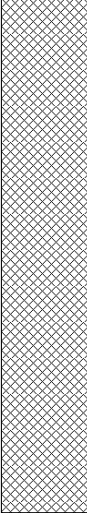
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.40			MADE GROUND: Dark brownish black, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subangular of brick, coal, clinker, shale and mudstone. Rare brick cobbles. MADE GROUND	1
									2
									3
								End of borehole at 3.40 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 1m from fence. 3) Southern. 4) Terminated at 3.40m due to refusal on cap.





Borehole Log

Borehole No.
MSN WS01
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

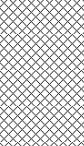
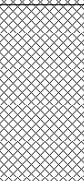
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	ES		1.00			MADE GROUND: Blackish brown, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subangular of brick, red shale, coal and mudstone. Frequent rootlets MADE GROUND	1
					2.20			NO RECOVERY - assumed Made Ground MADE GROUND	2
								End of borehole at 2.20 m	3
									4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 1m from fence. 3) Northern. 4) Terminated at 2.20 due to refusal, assumed cap.





Borehole Log

Borehole No.
MSN WS02
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

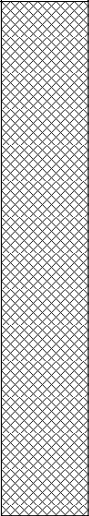
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.40			MADE GROUND: Blackish brown, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subangular of brick, red shale, coal and mudstone. Frequent rootlets MADE GROUND	1
									2
									3
								End of borehole at 3.40 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 1m from fence. 3) Southern. 4) Terminated at 3.40m due to refusal. Assumed cap.





Borehole Log

Borehole No.
MSN WS03
Sheet 1 of 1
Hole Type
WS
Scale
1:50
Logged By
ER

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

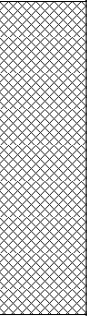
Co-ords: -

Location: Cronton

Level:

Client: Tritax Symmetry

Dates: 16/09/2022 -

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					2.07			MADE GROUND: Firm, blackish brown, slightly sandy, gravelly to very gravelly CLAY. Gravel is fine to coarse, angular to subangular of brick, clinker, concrete, coal and mudstone. MADE GROUND	1
								End of borehole at 2.07 m	2
									3
									4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) Terminated on refusal, potential relic foundation.





Borehole Log

Borehole No.
MSS WS01

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

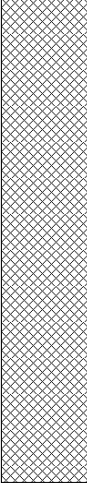
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					3.20			MADE GROUND: Blackish brown, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subrounded of brick, shale, coal and mudstone. Frequent rootlets from ground level to 0.90m. MADE GROUND	1
									2
									3
								End of borehole at 3.20 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 1m from fence. 3) Northern. 4) Terminated at 3.20m on cap.





Borehole Log

Borehole No.
MSS WS02
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		1.00	ES					MADE GROUND: Blackish brown, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subrounded of brick, shale, coal and mudstone. Frequent rootlets from ground level to 0.90m. MADE GROUND	1
									2
									3
								End of borehole at 3.20 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 1m from fence. 3) Southern. 4) Terminated at 3.20m.





Borehole Log

Borehole No.
MSS WS03
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

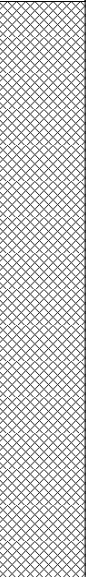
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		4.00		N=50 (7,8/50 for 245mm)	3.82			MADE GROUND: Blackish brown, slightly sandy, slightly clayey to clayey GRAVEL. Gravel is fine to coarse, angular to subangular of brick, clinker, coal, shale, mudstone and rare concrete. MADE GROUND	1
					4.45			Yellowish brown, mottled grey, extremely weak to extremely weathered MUDSTONE.	4
								End of borehole at 4.45 m	5
									6
									7
									8
									9
									10

Remarks

1) Water strike at 3.49m. 2) Terminated at target depth (bedrock).





Borehole Log

Borehole No.
MSS WS04
Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
WS

Location: Cronton

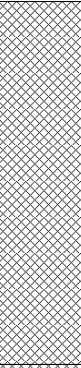
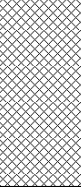
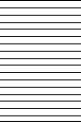
Level:

Scale
1:50

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		4.00		N=50 (10,10/50 for 235mm)	2.40			MADE GROUND: Dark Blackish brown, slightly sandy, clayey GRAVEL. Gravel is fine to coarse, angular to subrounded of coal, brick, clinker, mudstone, shale and rare limestone. MADE GROUND	1
					3.65			MADE GROUND: Dark greyish brown silty, gravelly CLAY. Gravel is fine to coarse, angular to subangular of coal, brick, clinker, mudstone and shale. MADE GROUND	2
					4.45			Yellowish brown, mottled grey, extremely weak to extremely weathered MUDSTONE.	3
								End of borehole at 4.45 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) No groundwater encountered. 2) 3m from fence. 3) Terminated at target depth.





Probe Log

Borehole No.

MSN DP01

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Depth (m)	Blows/100mm				Torque (Nm)
	10	20	30	40	
1	2				
	2				
	1				
	2				
	1				
	2				
	2				
	3				
	2				
	2				
	2				
	3				
2	3				
	4				
	4				
	3				
	3				
	3				
	3				
	2				
	4				
	4				
	5				
	5				
3	7				
	8				
	9				
	9				
	4				
	4				
	4				
	3				
	3				
	3				
	4				
					50
4					
5					

Remarks

1) 3.90M from fence

Fall Height

Cone Base Diameter

Hammer Wt

Final Depth

Probe Type DPSH-B

Log Scale 1:25





Probe Log

Borehole No.

MSN DP02

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

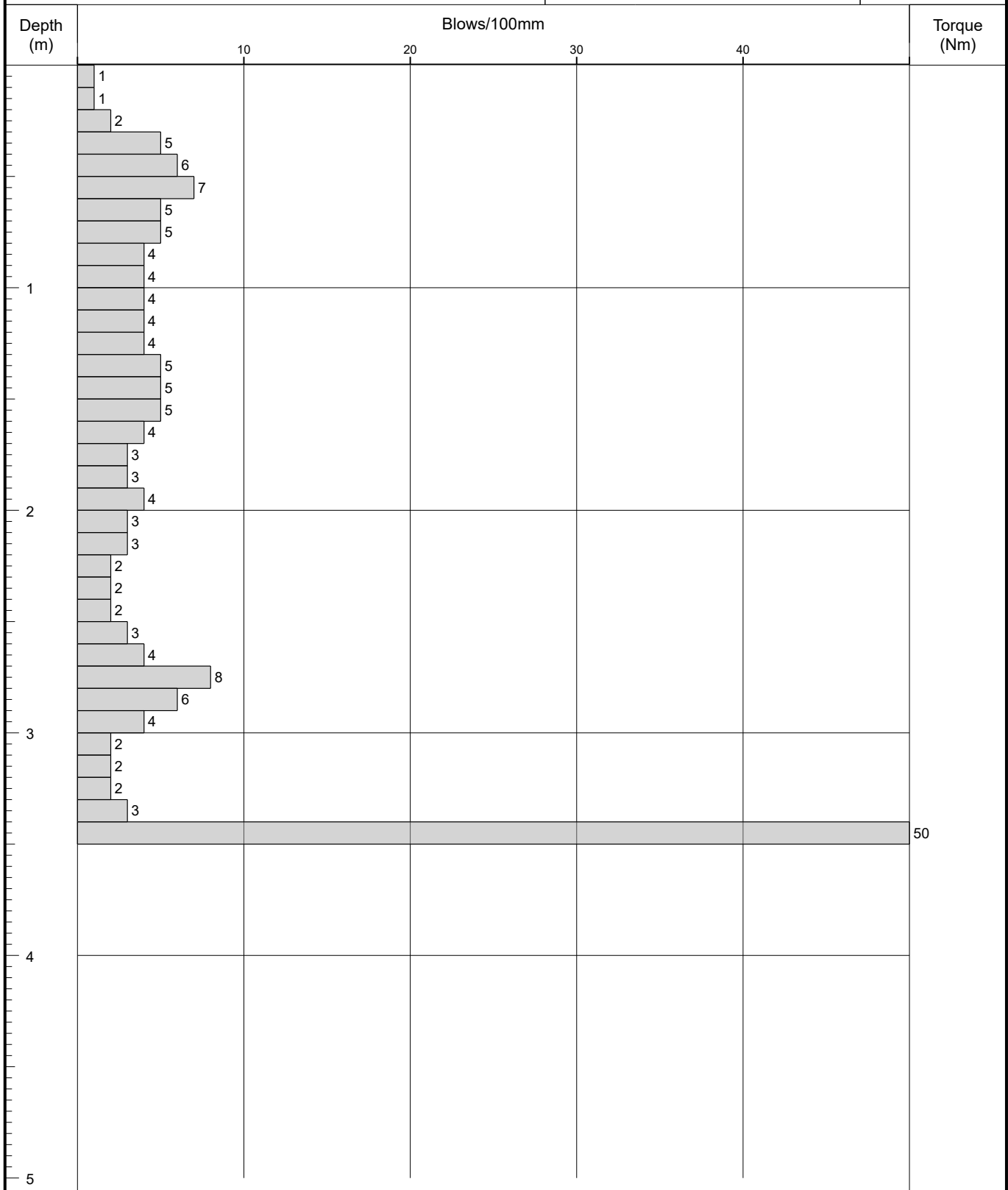
Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Remarks

1) 4.90M From fence

Fall Height

Hammer Wt

Probe Type DPSH-B

Cone Base Diameter

Final Depth

Log Scale 1:25





Probe Log

Borehole No.

MSN DP03

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

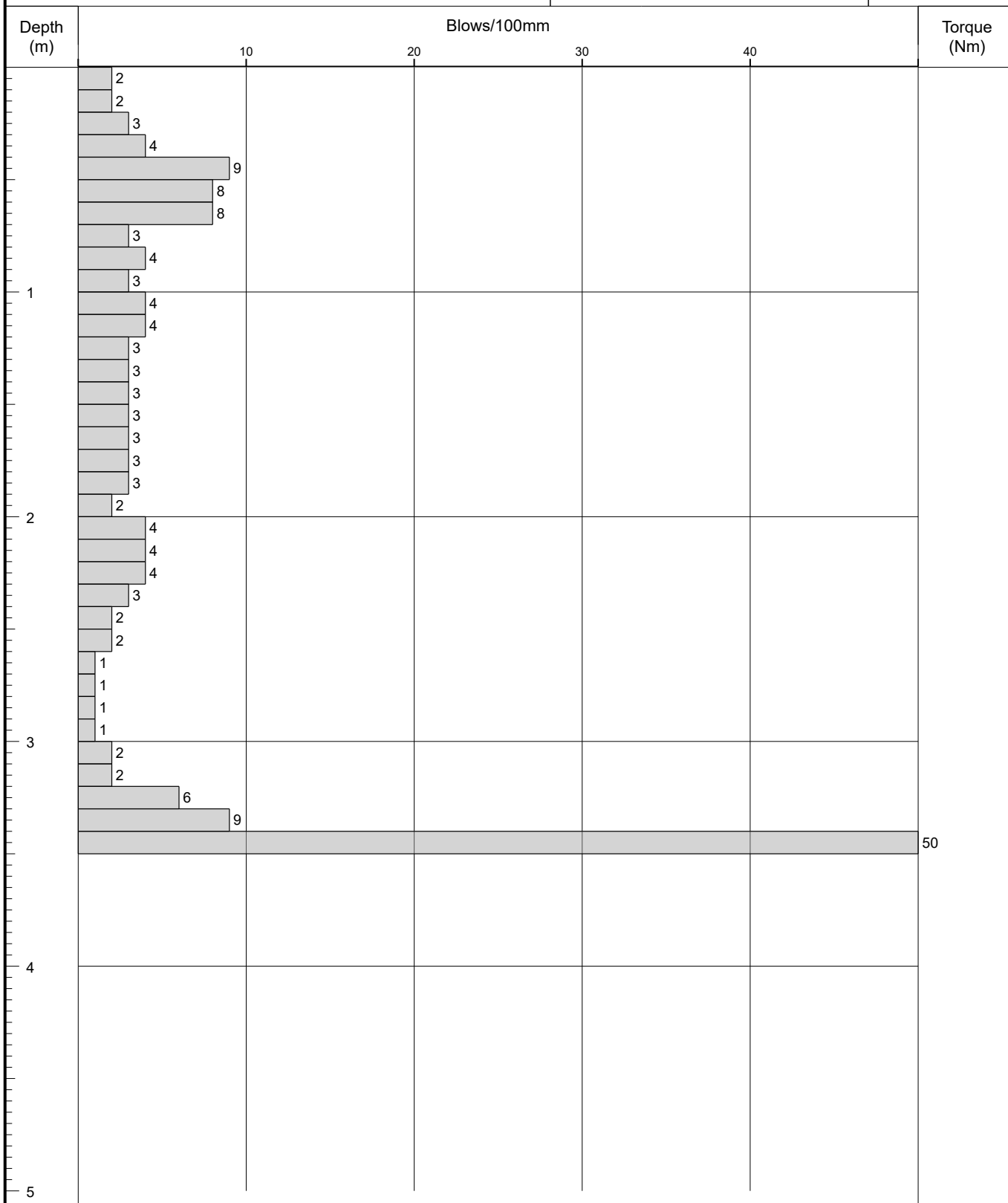
Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Remarks

1) 5.50M from fence

Fall Height

Hammer Wt

Probe Type DPSH-B

Cone Base Diameter

Final Depth

Log Scale 1:25







Probe Log

Borehole No.

MSN DP05

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

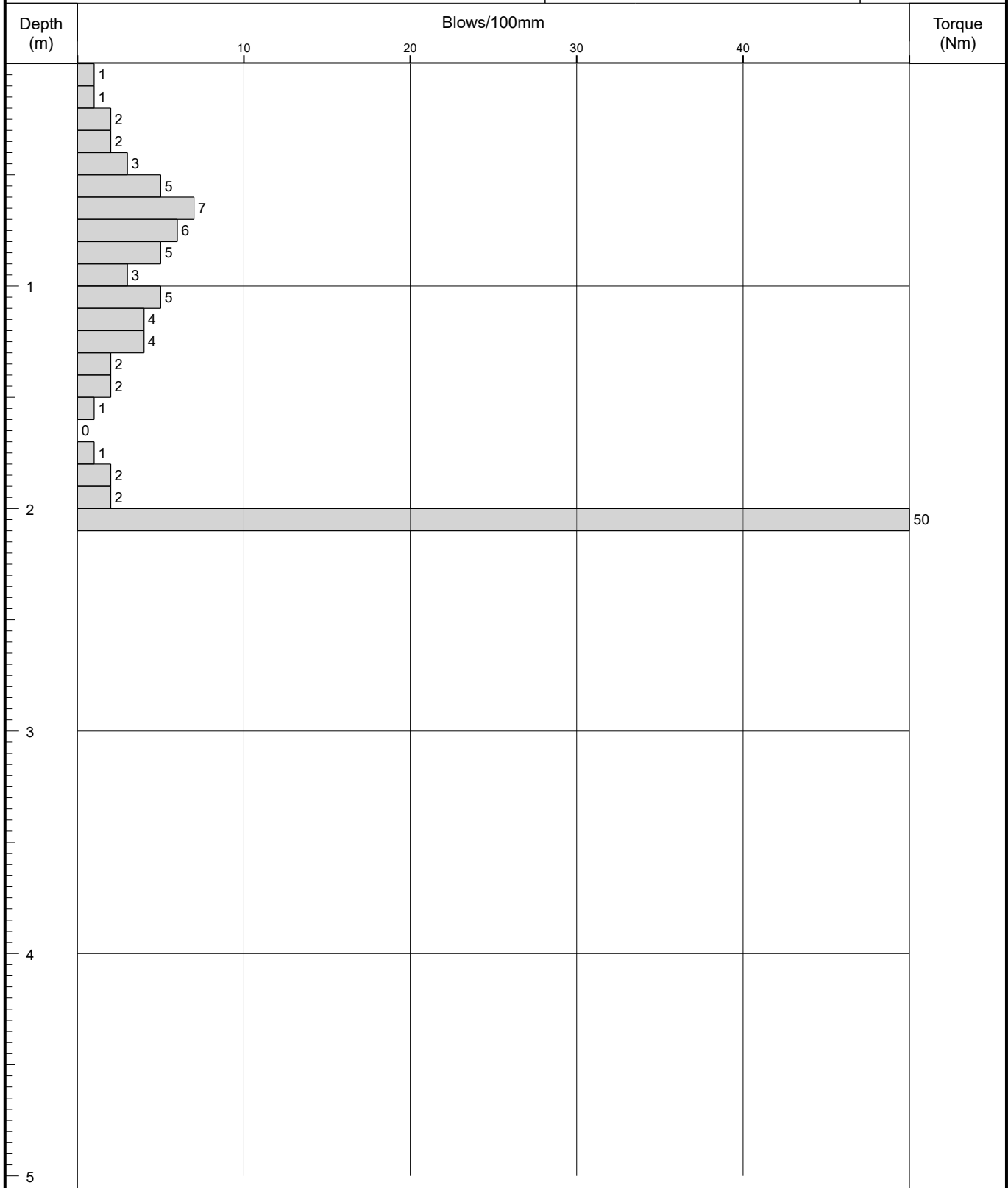
Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Remarks

1) 8.50M from fence

Fall Height

Hammer Wt

Probe Type DPSH-B

Cone Base Diameter

Final Depth

Log Scale 1:25





Probe Log

Borehole No.

MSS DP01

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Depth (m)	Blows/100mm				Torque (Nm)
	10	20	30	40	
1	2				
	3				
	3				
	3				
	2				
	2				
	2				
	2				
	2				
	2				
2	1				
	2				
	1				
	2				
	2				
	2				
	1				
	1				
	1				
	2				
3	1				
	1				
	1				
	1				
	1				
	0				
	1				
	1				
	1				
	3				
4	3				
5					

50

Remarks

1) 2M from fence

Fall Height

Hammer Wt

Probe Type DPSH-B

Cone Base Diameter

Final Depth

Log Scale 1:25





Probe Log

Borehole No.

MSS DP02

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

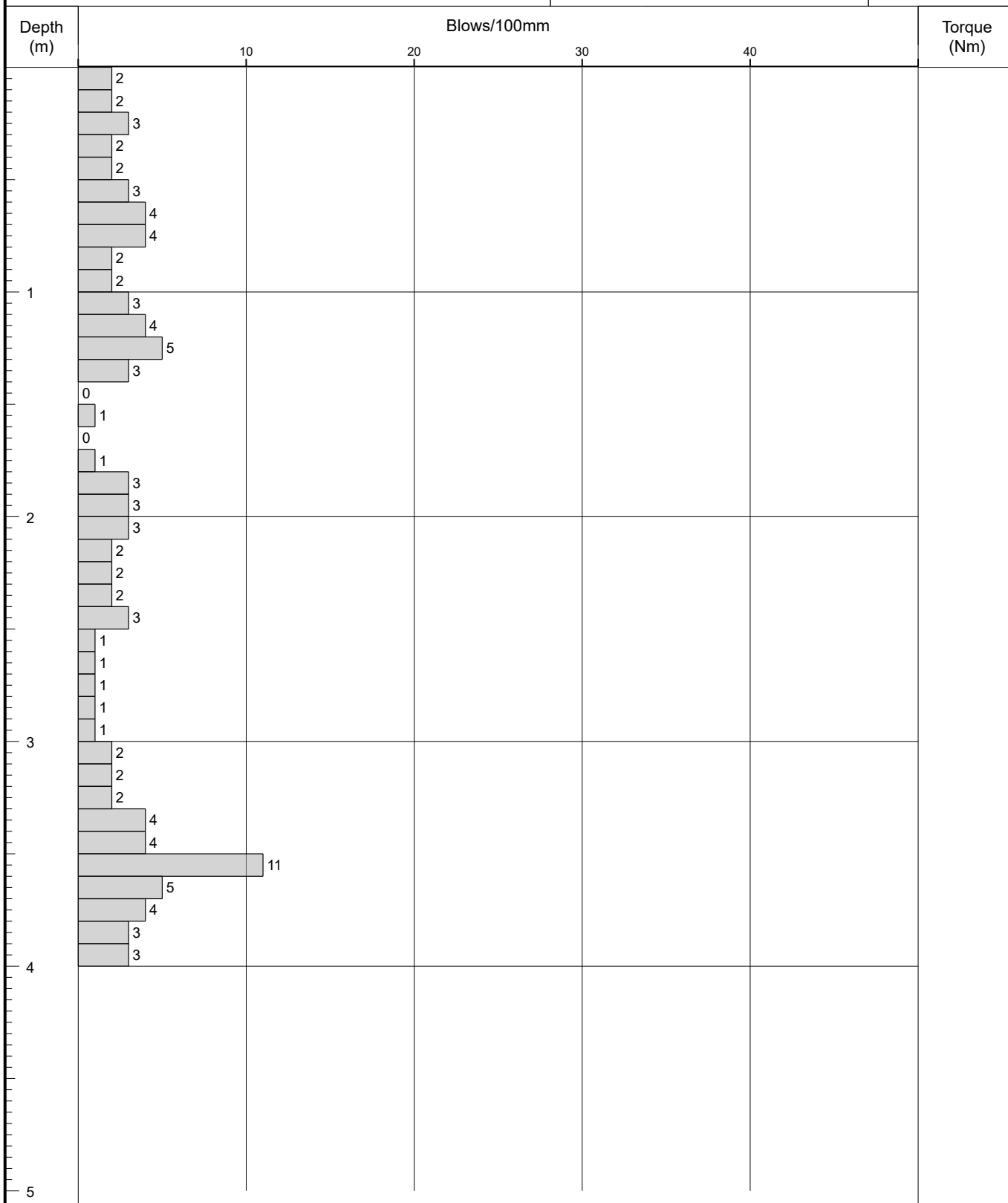
Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Remarks

1) 3M from fence

Fall Height

Hammer Wt

Probe Type DPSH-B

Cone Base Diameter

Final Depth

Log Scale 1:25







Probe Log

Borehole No.

MSS DP04

Sheet 1 of 1

Project Name: Symmetry Park, Huyton

Project No.
TE 1163

Co-ords: -

Hole Type
DP

Location: Cronton

Level:

Scale
1:25

Client: Tritax Symmetry

Dates: 16/09/2022 -

Logged By
ER

Depth (m)	Blows/100mm				Torque (Nm)
	10	20	30	40	
1	2 3 3 2 3 2 5 2 2 2				
2	3 3 2 2 3 2 2 3 3 3 3 3 2 2 2 2				
3	1 1 1 2 2 2 2 3 3 3 3 3 3				
4					
5					

Remarks

1) 3M from fence.

Fall Height

Hammer Wt

Probe Type DPSH-B

Cone Base Diameter

Final Depth

Log Scale 1:25

