Completion Report for the Treatment of Mine Workings

CHERRY TREE SURGERY, UPPER COMMERCIAL STREET, BATLEY

Project Ref: GUK-0923-04

For: A To Z Medical Instruments Limited

GROUNDSMITHS
GEOTECHNICAL ENGINEERS

PROJECT:

Commercial Development

REPORT REFERENCE:

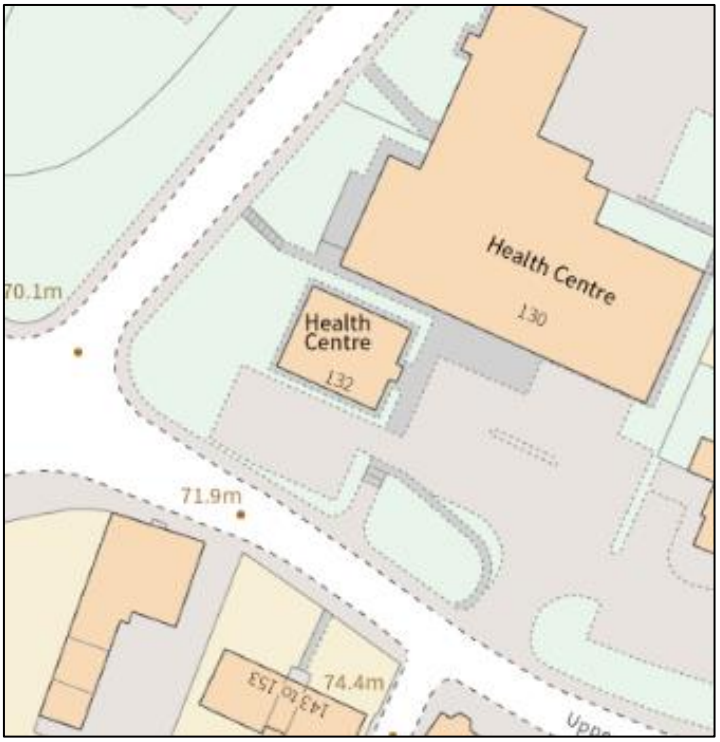
GUK-0923-04/Rp-001

CLIENT:

A To Z Medical Instruments Limited
Deighton Holme
Deighton Lane
Healey
Batley

SITE REFERENCE:

Cherry Tree Surgery
Upper Commercial Street
Batley



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1 INTRODUCTION

1.1 Appointment

Groundsmiths (UK) Ltd ('Groundsmiths') were appointed by A to Z Medical Instruments Limited (the 'Client') % Demolition & Geotechnical Limited ('D&G') to compile a Completion Report (the 'Report') in relation to a programme of shallow coal mine workings treatment that was undertaken at the Cherry Tree Surgery, Upper Commercial Street, Batley (herein referred to as the 'Site').

Groundsmiths have prepared this report for the sole use of the Client that commissioned it in accordance with the agreement under which our services are performed. No other warranty, expressed or implied, is made as to the professional advice included in this report. Any unauthorised third parties using the information presented do so entirely at their own risk and are duly excluded from any warranty, duty of care or skill.

No part of this report shall be reproduced or redistributed without the prior written consent of Groundsmiths. However, the report may be issued by the Client or their Agent to the Local Planning Authority to support the discharge of any pre-commencement, pre-occupancy or other stage of development condition as may or has been imposed in relation to the Site's assessment under the Town and Country Planning Act 1990.

1.2 Report Context & Status

An initial Coal Mining Risk Assessment ('CMRA') was compiled by J. Roberts Design Ltd[1] in December 2021 under instruction from James Totty Partnership LLP and in relation to the Client's intention to extend Cherry Tree Surgery. Whilst it is not the intention of this Report to reproduce the content of that CMRA, in summary the salient findings of the study indicated the following:

- The Site lies within an area where the Coal Authority believed there to be coal at or close to the surface, that may have been worked in the past;
- The Site is indicated to lie within a Development High Risk area, with the potential for probable unrecorded shallow coal mine workings;
- The Site was indicated to be underlain by deposits of the Pennine Lower Coal Measures. Specifically, the area of proposed development was found to be sited close to the boundary of the Emley Rock. A coal seam (the Flockton Thin) is mapped below that unit of sandstone, whilst the Flockton Thick seam lies above. The lower seam was considered to be more relevant in terms of potential ground instability;
- Information provided by James Totty Partnership LLP highlighted the presence of 'bell pit type workings' on a nearby site;

[1] J. Roberts Design Ltd (2021). Proposed Extension to Cherry Tree Surgery, Upper Commercial Street, Batley, WF17 5DH – Coal Mining Risk Assessment, Ref. APM/3252.

- The Flockton Thin coal was estimated to be present beneath the Site at a depth of 16m, with its intact thickness being up to 0.76m. Risk associated with migrating voids within the Flockton thin seam was considered to be very low given the recorded depth to the seam and the assumed thickness of competent rock cover above (and including any collapsed zones);

- Ground gas monitoring was recommended for the purposes of assessing risk associated with methane, carbon dioxide, and oxygen depletion;

- The potential for mine entries to be present was to be assessed during development enabling works, with any treatment being completed as required;

- Any ground investigation to be undertaken was to include for a check on coal within 3m of the ground surface to guard against potential inaccuracies in the crop of the Flockton Thick seam.

Further to the above cited document, a revised CMRA was completed by GroundTech[2] in June 2023. This report built upon the initial 2021 mining legacy assessment and included the findings of a limited phase of intrusive investigation. Reference should be made to the report as required.

In summary, Groundtech concluded that the Flockton Thick coal (position inferred) cropped in the extreme southern area of the Site, and dipped away to the south. The Flockton Thin coal, however, was estimated to be encountered beneath the Site at a depth of c.8.1m bgl, with this being based on its approximate mapped position 155m to the north and having an assumed dip rate of 3°. The report also stated that the seam was compound, being composed of various layers of coal separated by dirt and shale, and that it had been worked extensively as a house coal and for its associated fireclay.

Three rotary boreholes (RO1 – RO3) were completed to a terminal depth of 25m bgl as part of the ground investigation, with the following salient conditions being identified:

- RO1: Intact coal was recorded between 5.6-6.4m bgl (0.8m thick) and 12.5-13.2m bgl (0.7m thick), but a void was noted between 16.0-18.0m bgl (2.0m thick) with loss of flush. The surficial cover thickness was indicated to be 1.4m thick;

- RO2: Intact coal was recorded between 5.4-6.3m bgl (0.9m thick) and 13.5-14.1m bgl (0.6m thick), but a void was noted between 16.7-18.0m bgl (1.3m thick) with loss of flush. The surficial cover thickness was indicated to be 1.6m thick;

- RO3: Intact coal was recorded between 5.0-5.6m bgl (0.6m thick), 13.8-14.5m bgl (0.7m thick) and 17.2-18.5m bgl (1.3m thick). No voids were reported. The surficial cover thickness was indicated to be 1.4m thick.

[2] Groundtech Consulting (2023). Revised Coal Mining Risk Assessment. Cherry Tree Surgery, Ref. GRO-22384-4487, dated 1st June.

Based upon the findings of the investigation it was reported by Groundtech that there was less than 10x the required solid rock cover thickness above the workings. On this basis, it was considered that a programme of grout consolidation in general accordance with guidelines prescribed in CIRIA documentation[3] would need to be undertaken to enable betterment of the Site's stability. General treatment proposals were subsequently provided in a Performance Specification[4], prepared by DYSE Structural Engineers ('DYSE') under instruction from the Client; the grouting layout to be completed is provided for reference as Drawing Ref. LM22220-DYSE-XX-ZZ-DR-C-1001/P01, dated 30th June 2023. As always, the intention of such works is to ensure that no significant subsidence or crown hole can occur at the surface in the post-treatment phase, whilst demonstrating to the Local Planning Authority that the Site can be made safe to meet the requirements of the National Planning Policy Framework ('NPPF')[5], notably Paragraphs 183 and 184.

Groundsmiths were subsequently appointed via the Client's drilling contractor, Demolition & Geotechnical Limited ('D&G'), to have some oversight of the treatment works and to compile the validation data presented herein.

1.3 Reporting Limitations

It should be noted that Groundsmiths were not involved with the Site's initial assessment, the design or implementation of third party ground investigation works, or the design of the grout consolidation works to be completed.

It is understood that the Coal Authority issued the requisite permit to facilitate the proposed treatment based upon the grouting layout provided in the Performance Specification. Where amendments to the works undertaken on-Site have been made, these were based on specific ground conditions encountered by 'D&G', and are indicated herein.

The reporting limitations detailed in Section 5, in addition to any other specific limitations stated in the report text, shall apply.

[3] Parry, D. and Chiverrell, C. (eds) (2019). Abandoned Mine Workings Manual. C758D. CIRIA, London, UK (ISBN: 978-0-86017-765-4).

[4] DYSE Structural Engineers (2023). Cherry Tree Surgery, Performance Specification for Grout Stabilisation of Coal Mine Workings, Ref. LM22220-DYSE-XX-ZZ-SP-C-0001/Rev.P01, dated 30th June.

[5] Ministry of Housing, Communities & Local Government (2021). National Planning Policy Framework (Chapter 15 of the NPPF includes for the provision for adequate investigation information, prepared by competent persons, and identifies the responsibility that is placed on the developer and/or landowner should a site be found to be affected by instability).

2 DRILLING & GROUTING WORKS

2.1 Ground Conditions & Areas of Working

All proposed grouting positions defined by DYSE were pre-drilled to a length of 20.0m bgl prior to grouting, with penetration of between approximately 3.0m through the floor of the workings being achieved. The drilling works undertaken by D&G were broadly consistent with the findings of the limited phase of initial ground investigation, in that a relatively thin thickness of surficial cover was present, with the underlying bedrock being mudstone and containing more than one coal seam.

The results of the drilling indicated that six (15.0%) of the forty on-grid positions encountered intact coal within the target seam; the remaining thirty-four (85.0%) positions recorded either soft ground, broken ground, or (as on four occasions) void. Through completion of these boreholes, a total of 800m of drilling was completed.

A visualisation of the seam condition encountered at each of the on-grid positions is shown on Figure 0923-04-001. A summary of the individual drilling records is provided in Table 2.1, below and overleaf. A copy of the complete set of drilling records provided by D&G is given in Appendix A for reference.

Table 2.1 - Summary of Proven Coal Mining Legacy (On-grid positions)

Position on Grid	Drilled Length (m)	Unsuitable Cover Thickness (m)*	Soft / Broken Ground / Void (Workings) (m)			Competent Rock Cover (m)^^			Competent Rock Cover Thickness Required (m)^
			From	To	Thickness	From	To	Thickness	
C1	20.0	3.4	15.6	17.0	1.4	3.4	15.6	12.2	14.0
C2	20.0	3.3	3.3	16.2	12.9 (shaft)	-	-	-	-
C3	20.0	2.6	2.6	17.3	14.7 (shaft)	-	-	-	-
C4	20.0	3.2	15.6	16.8	1.2	3.2	15.6	12.4	12.0
C5	20.0	3.2	15.6	16.8	1.2	3.2	15.6	12.4	12.0
C6	20.0	3.2	15.6	16.7	1.1	3.2	25.6	12.4	11.0
C7	20.0	3.4	15.6	17.4	1.8	3.4	15.6	12.2	18.0
C8	20.0	3.4	15.6	17.1	1.5	3.4	15.6	12.2	15.0
C9	20.0	3.4	15.5	17.4	1.9	3.4	15.5	12.1	19.0
C10	20.0	3.3	15.7	16.9	1.2	3.3	15.7	12.4	12.0
C11	20.0	3.4	15.6	17.3	1.7	3.4	15.6	12.2	17.0
C12	20.0	3.2	15.5	16.7	1.2	3.2	15.5	12.3	12.0
C13	20.0	3.4	15.6	17.4	1.8	3.4	15.6	12.2	18.0
C14	20.0	3.3	15.6	16.7	1.1	3.3	15.6	12.3	11.0
C15	20.0	3.2	15.8	17.0	1.2	3.2	15.8	12.6	12.0

Table Contd./

Position on Grid	Drilled Length (m)	Unsuitable Cover Thickness (m)*	Soft / Broken Ground / Void (Workings) (m)			Competent Rock Cover (m)^^			Competent Rock Cover Thickness Required (m)^
			From	To	Thickness	From	To	Thickness	
C16	20.0	3.3	All coals intact			3.3	20.0	16.7	-
C17	20.0	3.2	15.8	17.0	1.2	3.2	15.8	12.6	12.0
C18	20.0	3.2	15.7	17.0	1.3	3.2	15.7	12.5	13.0
C19	20.0	3.4	15.3	17.5	2.2 (void)	3.4	15.3	11.9	22.0
C20	20.0	3.4	15.5	17.4	1.9	3.4	15.5	12.1	19.0
C21	20.0	3.4	All coals intact			3.4	20.0	16.6	-
C22	20.0	3.4	15.5	17.2	1.7	3.4	15.5	12.1	17.0
C23	20.0	3.4	All coals intact			3.4	20.0	16.6	-
C24	20.0	3.3	15.6	17.1	1.5	3.3	15.6	12.3	15.0
C25	20.0	3.4	15.5	16.8	1.3	3.4	15.5	12.1	13.0
C26	20.0	3.4	15.5	17.2	1.7	3.4	15.5	12.1	17.0
C27	20.0	3.3	15.6	16.8	1.2	3.3	15.6	12.3	12.0
C28	20.0	3.3	15.5	16.9	1.4	3.3	15.5	12.2	14.0
C29	20.0	3.2	15.6	16.7	1.1	3.2	15.6	12.4	11.0
C30	20.0	3.4	15.5	16.8	1.3	3.4	15.5	12.1	13.0
C31	20.0	3.3	All coals intact			3.3	20.0	16.7	-
P1	20.0	3.4	All coals intact			3.4	20.0	16.6	-
P2	20.0	3.4	15.7	16.9	1.2	3.4	15.7	12.3	12.0
P3	20.0	3.4	All coals intact			3.4	20.0	16.6	-
P4	20.0	3.3	15.3	16.6	1.3 (void)	3.3	15.3	12.0	13.0
P5	20.0	3.2	15.8	17.0	1.2 (void)	3.2	15.8	12.6	12.0
P6	20.0	Void recorded between 3.3-4.3m bgl with broken ground beneath between 4.3-5.0m bgl							
P7	20.0	3.1	15.4	16.8	1.4	3.1	15.4	12.3	14.0
S1	20.0	3.3	15.8	17.1	1.3	3.3	15.8	12.5	13.0
S2	20.0	3.2	15.3	16.8	1.3 (void)	3.2	15.3	12.1	13.0

*Competent rock cover thickness does not include topsoil, weathered, or fractured strata above the workings.

^^Including above intact coal seams.

^Cover thickness required assumes 10x the recorded aggregate height of workings in accordance with Parry, D. and Chiverrell, C. (eds) (2019). Abandoned Mine Workings Manual. C758D.

2.1 Additional Drilling Positions

Given the presence of voids as encountered within some of the boreholes, an additional six positions were completed by D&G to allow for greater consolidation of the workings beneath the footprint to the extension. A summary of the individual drilling records for these is given in Table 2.2, overleaf, whilst the positions of these boreholes are indicated on Figure 0923-04-002.

Table 2.2 - Summary of Proven Coal Mining Legacy (Additional positions)

Position on Grid	Drilled Length (m)	Unsuitable Cover Thickness (m)*	Soft / Broken Ground / Void (Workings) (m)			Competent Rock Cover (m)^^			Competent Rock Cover Thickness Required (m)^
			From	To	Thickness	From	To	Thickness	
P8	20.0	3.4	15.4	16.6	1.2	3.4	15.4	12.0	12.0
P9	20.0	3.3	15.5	16.7	1.2	3.3	15.5	12.2	12.0
P10	20.0	3.3	15.6	16.8	1.2	3.3	15.6	12.3	12.0
P11	20.0	3.1	15.5	16.7	1.2	3.1	15.5	12.4	12.0
P12	20.0	3.2	15.6	16.7	1.1	3.2	15.6	12.4	11.0
P13	20.0	3.3	All coals intact			3.3	20.0	16.7	-

*Competent rock cover thickness does not include topsoil, weathered, or fractured strata above the workings.

^^Including above intact coal seams.

^Cover thickness required assumes 10x the recorded aggregate height of workings in accordance with Parry, D. and Chiverrell, C. (eds) (2019). Abandoned Mine Workings Manual. C758D.

2.2 Other Features

D&G identified the presence of an off-Site shaft during the completion of boreholes C2 and C3, which were positioned in the run of boreholes that lay beyond the northern Site boundary. Both borehole C2 and C3 were angle drilled to achieve position in the seam. The ground conditions were recorded as being made ground/clay to 3.3m bgl and 2.6m bgl respectively, with broken ground (shaft fill) beneath to termination at 16.2m bgl and 17.3m bgl respectively. The depth to competent strata in each case was consistent with the depth to the worked seam. No voids were recorded in either borehole.

At the position of P6 a void was recorded between 3.3m bgl and 4.3m bgl and with this having broken ground beneath to 5.0m bgl. In all other holes two thin coals (assumed by Groundtech to be the result of folding within the Flockton Thin) were identified within this depth range, which were not worked; it is reasonable to assume therefore that localised prospecting or other such exploratory mining was undertaken at some point in the past. No other evidence of shallow working was recorded elsewhere on Site though.

2.1 Ground Gas

Throughout the works, monitoring for ground gases was undertaken by D&G at the drilling rig. Groundsmiths have been informed that no harmful levels of ground gas (i.e. CO_2, CH_4 and/or H_2S) were measured at any time during the works. This does not preclude, however, the possibility for there to be elevated concentrations of biogenic ground gas that may need to be mitigated in accordance with those guidelines prescribed in BS8485 [1]. All other assessments should be completed as required, with the correct Characteristic Situation (e.g. 1, 2, or otherwise) for the Site being determined.

2.2 Grouting

The 'stabilisation' works undertaken were designed to consolidate the workings as identified within the target seam. Where other mining features were encountered (i.e. the off-Site shaft in C2/C3, and the area of shallow working in P6) all reasonable attempts were also made to treat them.

Cement used in the grouting operation was Ordinary Portland Cement (OPC) complying with BSEN197-1 [2]. Pulverised Fuel Ash (PFA) was sourced from Uniper UK at Ratcliffe Power Station, Nottinghamshire. Four deliveries of PFA were made to Site by Uniper (Refs. 118236, 118392, 118486 and 118598).

A PFA and cement ratio mixture of 10:1 is understood to have been used by D&G. This is considered appropriate for the pressure grouting of soft strata and broken ground, and for the filling of the localised voids encountered.

On the basis of grout data provided (including that used for the off-Site shaft), it is indicated that a total of about 78.0 tonnes of grout was injected into the boreholes on grid. The grout-take in most instances was relatively low, although this was not wholly unexpected given the ground conditions encountered, the observed flush return, and the general lack of voids. Individual grout takes for each borehole are indicated on the grouting records in Appendix B.

No excessive lateral flow of grout was experienced during the works. The addition of sand, pea gravel, or other such admixture to the PFA/cement mix was not considered necessary.

Grout was injected into the workings with a maximum of 1 bar being achieved. Where intact coal was proven, no grouting of this was required other than to refill the holes to surface; the grout take at these positions was nominal.

Grout was injected into the off-Site shaft in 3m lifts. Although the shaft fill took little grout, pressure was introduced after each phase of treatment, with this being held for a period of 5 minutes in each instance. No loss of pressure was recorded.

2.3 Validation

Details with respect to field tests performed by D&G are provided in Appendix C.

Flow Testing

Nine slump tests were completed during the works.

The grout mixes used produced sufficiently pumpable grout with flowability readings of between 350mm and 500mm (average = 416mm). This is consistent with the typical range for flowability which may be between 300mm and 600mm when measured in a meter of the "Colcrete" type. This is within the range specified in the Performance Specification.

Bleed Testing

A general requirement for grouting is the avoidance of high bleed grouts. This is because they do not fill workings efficiently and the consequence is supplementary drilling and grouting at

greater cost. Bleed capacity was to be limited to a maximum of 5.0%, as stated in the Performance Specification.

Nine bleed tests were completed during the works with these being carried out over a 6 hour test period in each instance. The bleed capacities were recorded to be between 3.0% and 5.0% (average = 4.1%). This is consistent with the specified range.

Cube Testing

In order to determine the compressive strength of the grout, nine test cubes were made between the 10th November and 6th December 2023 for the purposes of crushing. All testing was carried out by SOCOTEC UK Limited, Warrington, in accordance with BS EN 12390 [3,4,5].

Test results are provided in Appendix C for reference but indicate that the compressive strength of the grout cubes ranged between 0.8MN/m^2 and 1.6MN/m^2 at up to 42 days after batching. Notwithstanding a slight deviance on the 30th November 2023 where crushing yielded a value of 0.8MN/m^2 in sample CTS-3, the remaining samples were all >1.0MN/m^2 at a minimum of 28 days which is consistent with the general minimum compressive strength requirement for grout as stated in the Performance Specification. The overall average strength is reported as being 1.26MN/m^2.

Check Drilling (Test Holes)

In order to assess the standard of grout consolidation undertaken, a total of seven non-production test boreholes (TH1 to TH6 and C32) were drilled at selected positions across the treatment area; C32 was drilled to assess consolidation of the fill within the off-Site shaft. The location of these boreholes are shown on Figure 0923-04-002. Individual records for the drilling and grouting of them are provided in Appendix B, but indicate the presence of grout and some intact pillars of coal.

All test boreholes recorded grout at a depth consistent with the seam, and/or within the shaft fill. Boreholes TH1 to TH6 were pressurised to a maximum of 1 bar, whilst the amount of grout needed to subsequently infill these boreholes was low at 0.5 tonnes. For the off-Site shaft, position C32 was noted to hold pressure between 2.4 bar at 15m depth, reducing to a minimum of 1.2 bar at 3m bgl. A nominal amount of grout was required to reinstate.

Other Mine Entries

The potential for other mine entries to exist cannot be completely discounted, so it would be considered prudent to have a watching brief during Site enabling and clearance for anything that may resemble ancient prospecting, including any trial shafts or excavations as may have occurred historically. Should such features be encountered, further investigation and treatment would be required in accordance with current guidance [6].

2.4 Precautions in Construction

The works presented herein take no account of the need for any superstructure or foundation precautions as may be required, although given that the Site lies within an area that has a recorded shallow mining legacy all relevant consultations should have been made by the

Client with the designing engineer, Building Control, and/or the warranty provider to ensure that all relevant precautionary measures are provided in construction.

3 CONCLUSIONS

All reasonable attempts were made by D&G to grout consolidate the mine workings encountered during the works, with boreholes being taken down through the floor of the workings to below the target seam. Works were undertaken in accordance with the established methodologies prescribed for the treatment of shallow coal mine workings and mine entries, as are routinely undertaken on development sites affected by mining instability.

Borehole spacings to cover the extension and its offset were prescribed by DYSE, with additional infill boreholes being introduced beneath the building's footprint to allow for further consolidation of the workings.

As indicated herein, a total of 46 positions were completed to facilitate the consolidation works. The majority of these recorded workings in the target seam, whilst some encountered intact coal. No particular spatial pattern was identified, although much of the Site was undermined with soft or broken ground being recorded in-seam. Voids were recorded at positions C19, P4, P5, P6 and S2.

Grout takes in the majority of the boreholes was low. Test positions confirmed that grout was present in the seam, except where intact coal was encountered, and the shaft fill.

Risk associated with currently unforeseen mine entries is considered to be low, although a watching brief should be undertaken during Site enabling works to ensure that nothing untoward is present.

The drill and grout records, and the field/laboratory test results indicate that the treatment works completed at the Site have been carried out to a satisfactory standard. It is considered that the works presented herein demonstrate that the Site should be safe and stable in accordance with the requirements of the National Planning Policy Framework.

The comments and conclusions presented herein are considered reasonable on the basis of available information and the treatment of the Site as carried out by D&G.

4 REGULATORY APPROVAL

This Report has been compiled in accordance with good practice guidance for the assessment and management of land that has or may be affected by mining legacy.

NOTE: It remains the responsibility of the Client to ensure that the Site poses no significant risk to public safety and/or ground stability and that it remains aligned with the proposed end-use and assessment framework adopted in this Report.

Works undertaken cannot be guaranteed to gain approval by the regulatory authorities, so a copy of this Report should be made available to the relevant organisations for comment prior to undertaking any irrecoverable works associated with the Site.

5 REPORTING LIMITS

Drill and grout operations were undertaken by D&G under direct commission with the Client. Groundsmiths had no influence over financial or contractual obligations between the Client and D&G with respect to the works carried out. Groundsmiths were appointed on a separate basis, via D&G, with the aim being to provide a part-time oversight of the works and the verification contained herein.

It is taken that all Site-specific data provided by D&G is reliable and representative of the ground conditions, mining legacy encountered, and the mitigation measures undertaken. It should be noted, however, that Groundsmiths cannot independently confirm this so verification provided in this Report is given in good faith and is subject to the limitations and constraints imposed by the methods and information sources described. No responsibility can be accepted for errors or omissions in the data provided by D&G.

Where opinions expressed in this Report are based on current available guidelines and legislation, no liability can be accepted for the effects of any future changes to such guidelines and legislation.

Groundsmiths reserve the right to edit and/or retract any comment or conclusion made in this Report should any further information, with respect to the Site, become available.

Groundsmiths disclaim any obligation to update the Report for events taking place after the time during which the works were carried out.

Groundsmiths do not provide or purport to provide legal advice. Should the Client require such advice then that of lawyers should be sought.

This Report cannot be reassigned to a third party without consultation being made with Groundsmiths. A nominal fee would be applicable in such instances for each reassignment. Please contact us to discuss.

6 INFORMATION SOURCES

The following references have been cited in the production of this Report:

1 BS8485 (2015+A1:2019) Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.

2 BS EN 197-1 (2011: incorporating corrigenda November 2011, October 2015 and February 2019). Cement. Part 1: Specifications and Conformity Criteria for Common Cements.

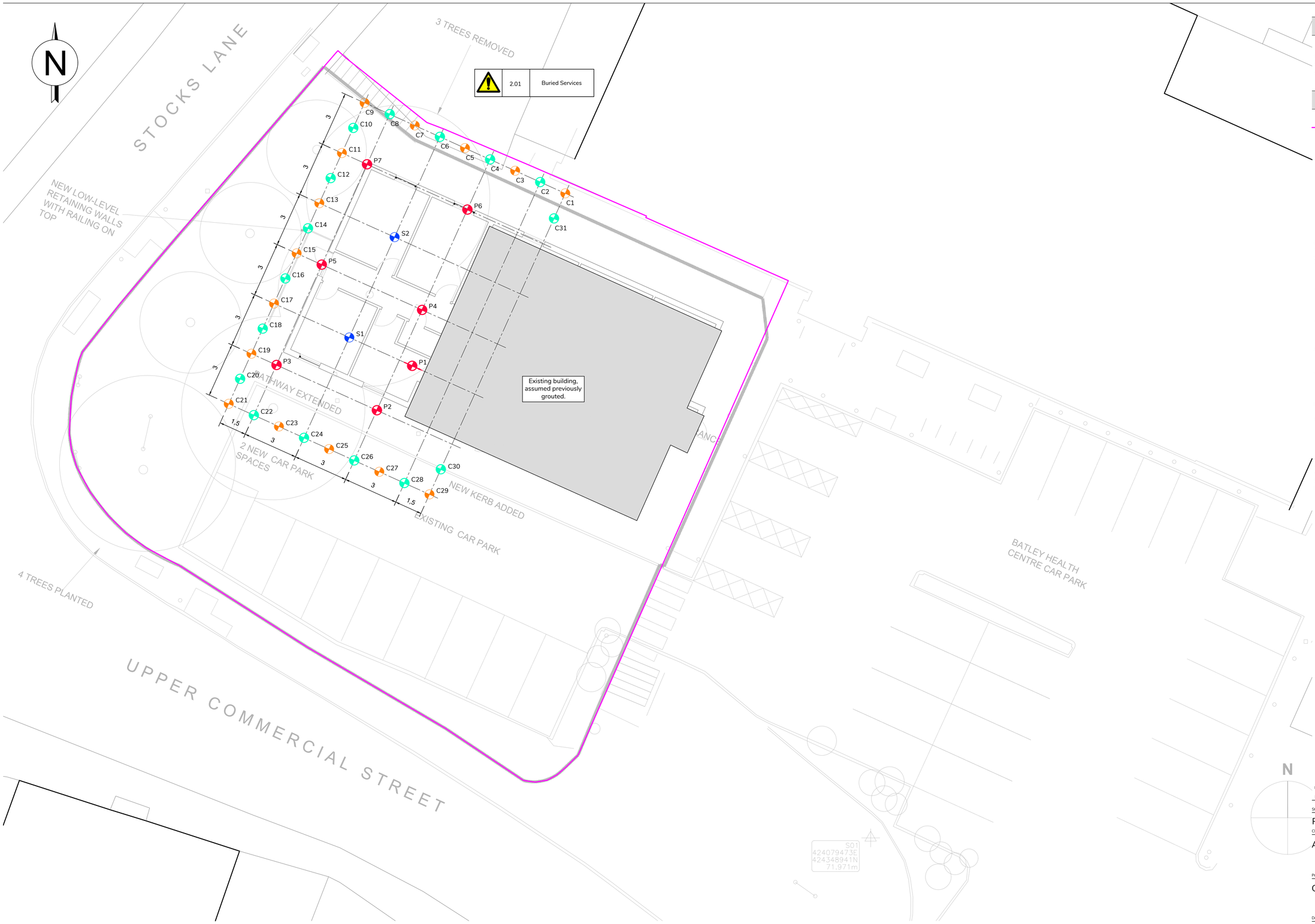
3 BS EN 12390-2 (2019). Testing Hardened Concrete. Making and Curing Specimens for Strength Testing.

4 BS EN 12390-3 (2019). Testing Hardened Concrete. Compressive Strength of Test Specimens.

5 BS EN 12390-7 (2019). Testing Hardened Concrete. Density of Hardened Concrete.

6 GOV.UK (2019). Policy for Building Over or Within the Influencing Distance of a Mine Entry.

FIGURES & DRAWINGS



Coal Mining Remediation - Drilling and Grouting

Scale 1:100

1:100

2m 0 2m 4m 6m 8m 10m

Residual Risks

These drawings should be read in conjunction with the designer's risk assessment (DRA) which communicates significant residual design risks that have been identified and suggests mitigating actions.

Legend

- Coal Authority (CA) Permit Boundary
- Primary Hole
- Inclined Borehole
- Secondary Hole
- Primary Grout Curtain Hole 3m c/c Spacing
- Secondary Grout Curtain Hole 3m c/c Spacing

General Notes

1. All dimensions shown in m unless noted otherwise.
2. All levels in m unless noted otherwise.
3. The drill and grout locations are indicative. Each hole location shall be subject to service clearance before drilling commences.
4. Prior to works commencing an inclined borehole (as shown) should be undertaken to confirm the existing building has been remediated. Grout curtain holes should also be used as part of this design verification.
7. If it is shown the existing building has not been remediated, re-design of the grout pattern should be undertaken to allow for remediating the existing building with inclined holes.
8. The proposed grout curtain consists of drill and gout holes spaced at 1.5m c/c (between primary and secondary) and drilled to a maximum depth of up to 20m.
9. A maximum depth of up to 20m is proposed for the primary and secondary holes. The depth of each hole is to be confirmed on site.

Reference Information

This package of information has been produced with reference to following information:

1. MET Geo Environmental: DWG named P21-01155-MET-EXT-XX-TOP-M3-G-1-3d topographical survey, received 14.06.23

Performance Specification

All works to be completed in strict accordance with the Performance Specification of Grout Stabilisation of Coal Mine Workings, reference LM22220-DYSE-XX-ZZ-SP-C-0001.

Rev	Date	Description	Drw	Chk	Revd	App
P01	30.06.23	First issue	BKO	JB	JDY	JDY

Status: PRELIMINARY

Client: A to Z Medical Instruments

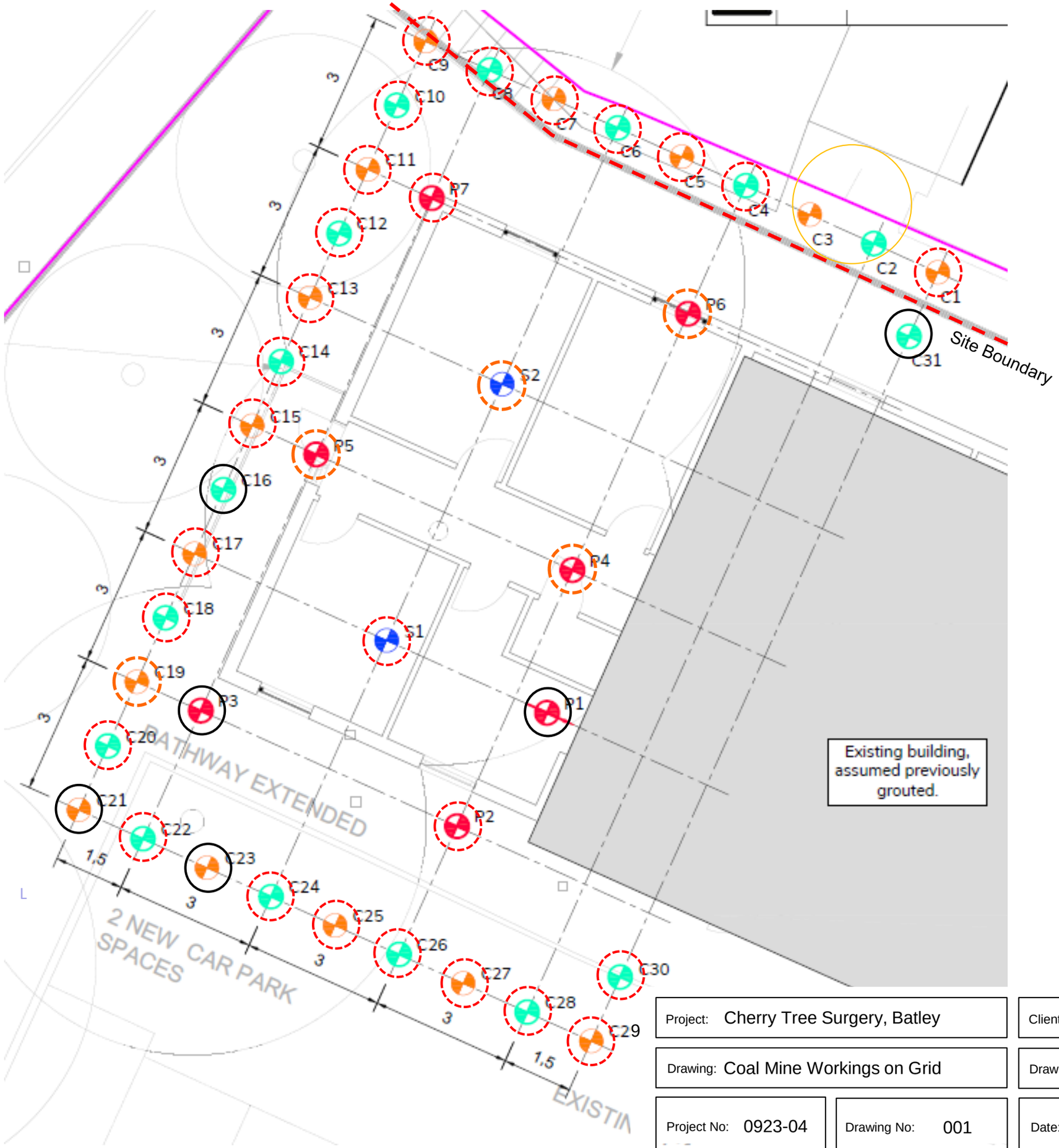
Project: Cherry Tree Surgery

Drawing: Coal Mining Remediation Drilling and Grouting

Drawing Number: LM22220-DYSE-XX-ZZ-DR-C-1001

Revision: P01

DYSE STRUCTURAL ENGINEERS



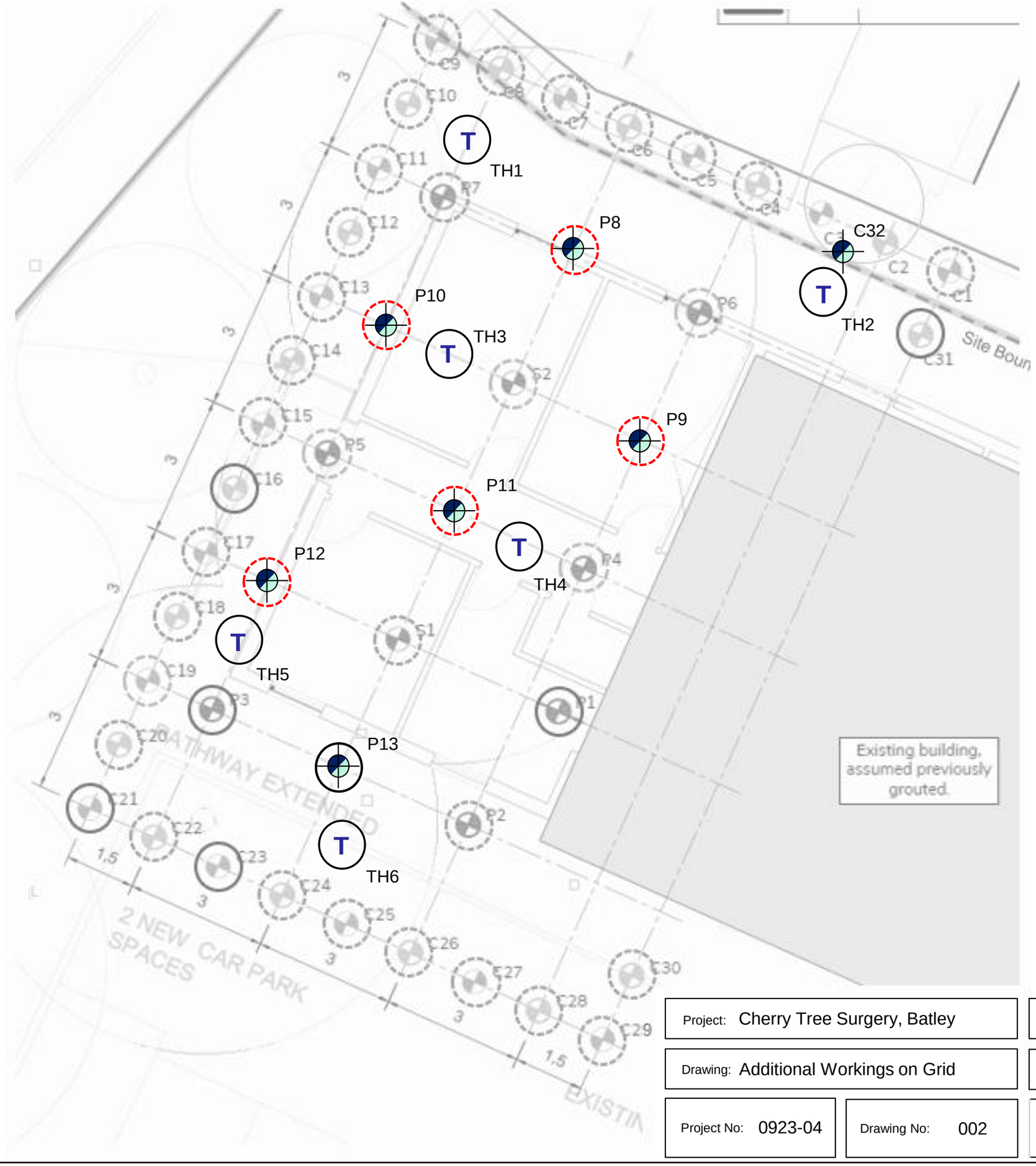
Worked coal on grid.

Intact coal on grid.

Void on grid.

Off-Site shaft feature.

Project: Cherry Tree Surgery, Batley	Client: A To Z Medical Instruments Limited
Drawing: Coal Mine Workings on Grid	Drawn/Checked: AJS
Project No: 0923-04	Drawing No: 001
Date: Jan. 2024	GROUNDSMITHS GEOTECHNICAL ENGINEERS



Additional borehole position

Worked coal in additional holes.

Intact coal in additional holes.

Void in additional holes.

Test Hole.

Project: Cherry Tree Surgery, Batley		Client: A To Z Medical Instruments Limited	
Drawing: Additional Workings on Grid		Drawn/Checked: AJS	GROUNDSMITHS GEOTECHNICAL ENGINEERS
Project No: 0923-04	Drawing No: 002	Date: Jan. 2024	

APPENDIX A

Drilling Records

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry Tree Surgery	Sheet: 1/1
Rig: Hutte	Crew: IR	Date: 3-11-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
S1	0.00-0.60	Made Ground			
	0.60-3.30	Clay			
	3.30-3.70	Coal			
	3.70-4.50	Mudstone			
	4.50-5.10	Coal			
	5.10-15.80	Mudstone			
	15.80-17.10	Soft Ground			
	17.10-20.00	Hard Strata			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	1	20		
						Previous				
						To date				

CT-DL-1

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry tree Surgery	Sheet: 1/1
Rig: Hutte	Crew: IR	Date: 6-11-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
P3	0.00-2.10	Made Ground			
	2.10 - 3.40	Clay			
	3.40 - 3.80	Coal			
	3.80 - 4.30	Mudstone			
	4.30 - 5.00	Coal			
	5.00 - 15.90	Mudstone			
	15.90 - 16.90	Coal			
	16.90 - 20.00	Mudstone			
P2	0.00-0.90	Made Ground			
	0.90-3.40	Clay			
	3.40 - 3.80	Coal			
	3.80 - 4.40	Mudstone			
	4.40 - 5.10	Coal			
	5.10 - 15.70	Mudstone			
	15.70 - 16.90	Broken Ground			
	16.90 - 20.00	Hard Strata			
P5	0.00-0.40	Made Ground			
	0.40 - 3.20	Clay			
	3.20 - 3.70	Coal			
	3.70 - 4.50	Mudstone			
	4.50 - 5.10	Coal			
	5.10 - 15.80	Mudstone			
	15.80 - 17.00	Void			
	17.00 - 20.00	Hard Strata			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today	3	60		
Previous	1	20		
To date	4	80		

CT-DL-2

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry Tree Surgery	Sheet: 1/1
Rig: Hutte	Crew: IR	Date: 8-11-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
P6	0.00-0.40	Made Ground			
	0.40 - 3.30	Clay			
	3.30 - 4.30	Void			
	4.30 - 5.00	Broken Ground			
	5.00 - 20.00	Hard Strata			
P7	0.00-0.30	Made Ground			
	0.30 - 3.10	Clay			
	3.10 - 3.60	Coal			
	3.60 - 4.40	Mudstone			
	4.40 - 5.00	Coal			
	5.00 - 15.40	Mudstone			
	15.40 - 16.80	Broken Ground			
	16.80 - 20.00	Hard Strata			
S2	0.00 - 0.50	Made Ground			
	0.50 - 3.20	Clay			
	3.20 - 3.80	Coal			
	3.80 - 4.30	Mudstone			
	4.30 - 4.90	Coal			
	4.90 - 15.30	Mudstone			
	15.30 - 16.80	Void			
	16.80 - 20.00	Hard Strata			

Casing / Water level details

BH	Casing		Water			Totals	BH's	Drill	Case	Core
	Die	Depth	Strike	Rise	Sealed					
						Today	3	60		
						Previous	4	80		
						To date	7	140		

CT-DL-3

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry Tree Surgery	Sheet: 1 / 1
Rig: Hutte	Crew: IR	Date: 13-11-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
P4	0.00 - 0.30	Made Ground			
	0.30 - 3.30	Clay			
	3.30 - 3.80	Coal			
	3.80 - 4.40	Mudstone			
	4.40 - 4.90	Coal			
	4.90 - 15.30	Mudstone			
	15.30 - 16.60	Void			
	16.60 - 20.00	Hard Strata			
P1	0.00 - 0.40	Made Ground			
	0.40 - 3.40	Clay			
	3.40 - 3.80	Coal			
	3.80 - 4.40	Mudstone			
	4.40 - 4.90	Coal			
	4.90 - 15.40	Mudstone			
	15.40 - 16.40	Coal			
	16.40 - 20.00	Mudstone			
C25	0.00 - 3.40	Clay			
	3.40 - 3.60	Coal			
	3.60 - 4.30	Mudstone			
	4.30 - 5.00	Coal			
	5.00 - 15.50	Mudstone			
	15.50 - 16.80	Broken Ground			
	16.80 - 20.00	Hard Strata			

Casing / Water level details

BH	Casing		Water			Totals	BH's	Drill	Case	Core
	Die	Depth	Strike	Rise	Sealed					
						Today	3	60		
						Previous	7	140		
						To date	10	200		

CT-DL-4

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log JR	Site: CHERRY TREE SURGERY	Sheet: 1
Rig: HVTE	Crew: JR - JF	Date: 17.11.23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C23					
	00 - 210	MADE GROUND			
	210 - 340	CLAY			
	340 - 380	COAL			
	380 - 430	MUDSTONE			
	430 - 500	COAL			
	500 - 1590	MUDSTONE			
	1590 - 1700	COAL			
	1700 - 2000	MUDSTONE			
C21					
	ex - 230	MADE GROUND			
	230 - 340	CLAY			
	340 - 380	COAL			
	380 - 430	MUDSTONE			
	430 - 500	COAL			
	500 - 1580	MUDSTONE			
	1580 - 1690	COAL			
	1690 - 2000	MUDSTONE			
C19	00 - 210	MADE GROUND			
	210 - 340	CLAY			
	340 - 380	COAL			
	380 - 430	MUDSTONE			
	430 - 500	COAL			
	500 - 1530	MUDSTONE			
	1530 - 1750	VOID			
	1750 - 2000	HARD STRATA			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	3	60		
						Previous	10	200		
						To date	13	260		

CT-DL-S

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: CTL	Sheet: 1
Rig: HUTTE	Crew: IR	Date: 24.11.23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C20	00- 220	MADE GROUND	C15	00- 230	MADE GROUND
ANGLE	220- 340	CLAY	ANGLE	230- 320	CLAY
	340- 380	COAL		320- 370	COAL
	380- 430	MUDSTONE		370- 450	MUDSTONE
	430- 500	COAL		450- 510	COAL
	500- 1550	MUDSTONE		510- 1580	MUDSTONE
	1550- 1740	GROUT		1580- 1700	GROUT
	1740- 2000	MUDSTONE		1700- 2000	MUDSTONE
	00- 300	CASE		00- 300	CASE
	00- 2000	CLEAN OUT		00- 2000	CLEAN OUT
C17	00- 230	MADE GROUND			
ANGLE	230- 320	CLAY			
	320- 370	COAL			
	370- 450	MUDSTONE			
	450- 510	COAL			
	510- 1580	MUDSTONE			
	1580- 1700	GROUT			
	1700- 200	MUDSTONE			
	00- 300	CASE			
	00- 2000	CLEAN OUT			

Casing / Water level details

BH	Casing		Water			Totals	BH's	Drill	Case	Core
	Die	Depth	Strike	Rise	Sealed					
						Today	3	120	9	
						Previous	13	260	0	
						To date	16	380	9	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: CHERRY TREES BOLSERY	Sheet: 1 OF 1
Rig: HUTTÉ	Crew:	Date: 28.11.23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C13	00 - 220	MADE GROUND		1550 - 1740	SOFT STRATA
ANGLE	220 - 340	CLAY		1740 - 2000	HARD STRATA
	340 - 380	COAL		00 - 300	CASE
	380 - 430	MUDSTONE		00 - 1800	CLEAN OUT
	430 - 510	COAL			
	510 - 1560	MUDSTONE	C7	00 - 60	MADE GROUND
	1560 - 1740	SOFT STRATA	ANGLE	60 - 340	CLAY
	1740 - 2000	HARD STRATA		340 - 380	COAL
	00 - 300	CASE		380 - 430	MUDSTONE
	00 - 1800	CLEANOUT		430 - 500	COAL
				500 - 1560	MUDSTONE
C11	00 - 230	MADE GROUND		1560 - 1740	BROKEN GROUND
ANGLE	230 - 340	CLAY		1740 - 2000	HARD STRATA
	340 - 380	COAL		00 - 300	CASE
	380 - 430	MUDSTONE		00 - 1800	CLEANOUT
	430 - 510	COAL			
	510 - 1560	MUDSTONE	C3	00 - 260	MADE GROUND
	1560 - 1730	SOFT STRATA		26 - 1730	BROKEN GROUND
	1730 - 2000	HARD STRATA		1730 - 2000	HARD STRATA
	00 - 300	CASE			
	00 - 1800	CLEANOUT			
C9	00 - 60	MADE GROUND			
ANGLE	60 - 340	CLAY			
	340 - 380	COAL			
	380 - 440	MUDSTONE			
	440 - 510	COAL			
	510 - 1550	MUDSTONE			

Casing / Water level details

BH	Casing		Water			Totals	BH's	Drill	Case	Core
	Die	Depth	Strike	Rise	Sealed					
						Today	5	192	12	
						Previous	16	380	9	
						To date	21	572	21	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry tree Surgery	Sheet: 1 / 1
Rig: Hutte	Crew: IR	Date: 30-11-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C1	0.00 - 2.30	Made Ground	C18	0.00 - 2.10	Made Ground
Angle	2.30 - 3.40	Clay	Angle	2.10 - 3.20	Clay
	3.40 - 3.80	Coal		3.20 - 3.70	Coal
	3.80 - 4.30	Mudstone		3.70 - 4.40	Mudstone
	4.30 - 4.90	Coal		4.40 - 5.00	Coal
	4.90 - 15.60	Mudstone		5.00 - 15.70	Mudstone
	15.60 - 17.00	Grout		15.70 - 17.00	Grout
	17.00 - 20.00	Mudstone		17.00 - 20.00	Mudstone
C31	0.00 - 2.10	Made Ground	C22	0.00 - 2.20	Made Ground
Angle	2.10 - 3.30	Clay	Angle	2.20 - 3.40	Clay
	3.30 - 3.80	Coal		3.40 - 3.80	Coal
	3.80 - 4.30	Mudstone		3.80 - 4.30	Mudstone
	4.30 - 4.90	Coal		4.30 - 5.10	Coal
	4.90 - 15.70	Mudstone		5.10 - 15.50	Mudstone
	15.70 - 16.70	Coal		15.50 - 17.20	Grout
	16.70 - 20.00	Mudstone		17.20 - 20.00	Mudstone
C16	0.00 - 0.70	Made Ground	C3	0.00 - 15.00	Cased
Angle	0.70 - 3.30	Clay		0.00 - 18.00	Cleaned out casing
	3.30 - 3.80	Coal			
	3.80 - 4.30	Mudstone			
	4.30 - 5.00	Coal			
	5.00 - 15.70	Mudstone			
	15.70 - 16.80	Coal			
	16.80 - 20.00	Mudstone			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today	6	118	15	
Previous	21	572	21	
To date	27	690	36	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry tree lane	Sheet: 1 - 1
Rig: Hutte	Crew: IR	Date: 1-12-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
P13	0.00 - 2.10	Made Ground	P8	0.00 - 2.00	Made Ground
	2.10 - 3.30	Clay		2.00 - 3.40	~~Mud~~ Clay
	3.30 - 3.80	Coal		3.40 - 3.80	Coal
	3.80 - 4.30	Mudstone		3.80 - 4.40	Mudstone
	4.30 - 5.10	Coal		4.40 - 5.10	Coal
	5.10 - 15.50	Mudstone		5.10 - 15.40	Mudstone
	15.50 - 16.50	Coal		15.40 - 16.60	Grout
	16.50 - 20.00	Mudstone		16.60 - 20.00	Mudstone
P12	0.00 - 1.60	Made Ground	P9	0.00 - 1.90	Made Ground
	1.60 - 3.20	Clay		1.90 - 3.30	Clay
	3.20 - 3.60	Coal		3.30 - 3.80	Coal
	3.60 - 4.20	Mudstone		3.80 - 4.30	Mudstone
	4.20 - 5.00	Coal		4.30 - 5.00	Coal
	5.00 - 15.60	Mudstone		5.00 - 15.50	Mudstone
	15.60 - 16.70	Grout		15.50 - 16.70	Grout
	16.70 - 20.00	Mudstone		16.70 - 20.00	Mudstone
P11	0.00 - 1.90	Made Ground	P10	0.00 - 1.60	Made Ground
	1.90 - 3.10	Clay		1.60 - 3.30	Clay
	3.10 - 3.60	Coal		3.30 - 3.80	Coal
	3.60 - 4.30	Mudstone		3.80 - 4.30	Mudstone
	4.30 - 5.10	Coal		4.30 - 5.10	Coal
	5.10 - 15.50	Mudstone		5.10 - 15.60	Mudstone
	15.50 - 16.70	Grout		15.60 - 16.80	Grout
	16.70 - 20.00	Mudstone		16.80 - 20.00	Mudstone

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	6	120	0	
						Previous	27	690	36	
						To date	33	810	36	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry tree lane	Sheet: 1 - 3
Rig: Hutte	Crew: I,R	Date: 2-12-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C4	0.00-1.80	Made Ground	C14	0.00-1.60	Made Ground
	1.80-3.20	Clay		1.60-3.30	Clay
	3.20-3.70	Coal		3.30-3.80	Coal
	3.70-4.30	Mudstone		3.80-4.30	Mudstone
	4.30-5.00	Coal		4.30-5.00	Coal
	5.00-15.60	Mudstone		5.00-15.60	Mudstone
	15.60-16.80	Grout		15.60-16.70	Grout
	16.80-20.00	Mudstone		16.70-20.00	Mudstone
C5	0.00.2.10	Made Ground	C8	0.00-0.70	Made Ground
	2.10-3.20	Clay		0.70-3.40	Clay
	3.20-3.60	Coal		3.40-3.80	Coal
	3.60-4.30	Mudstone		3.80-4.30	Mudstone
	4.30-5.00	Coal		4.30-5.00	Coal
	5.00-15.60	Mudstone		5.00-15.60	Mudstone
	15.60-16.80	Grout		15.60-17.10	Grout
	16.80-20.00	Mudstone		17.10-20.00	Mudstone
C6	0.00-1.90	Made Ground	C10	0.00-0.60	Made Ground
	1.90-3.30	Clay		0.60-3.30	Clay
	3.30-3.70	Coal		3.30-3.80	Coal
	3.70-4.20	Mudstone		3.80-4.30	Mudstone
	4.20-5.00	Coal		4.30-4.90	Coal
	5.00-15.60	Mudstone		4.90-15.70	Mudstone
	15.60-16.70	Grout		15.70-16.90	Grout
	16.70-20.00	Mudstone		16.90-20.00	Mudstone

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today	8	178	15	
Previous	33	810	36	
To date	41	988	51	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry Tree Surgery	Sheet: 2 - 2
Rig: Hutte	Crew: IR	Date: 2 - 12 - 23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C12	0.00 - 0.90	Made Ground			
	0.90 - 3.20	Clay			
	3.20 - 3.60	Coal			
	3.60 - 4.30	Mudstone			
	4.30 - 5.00	Coal			
	5.00 - 15.50	Mudstone			
	15.50 - 16.70	Grout			
	16.70 - 20.00	Mudstone			
C2	0.00 - 2.80	Made Ground			
Angel	2.80 - 3.30	Clay			
Shaft	3.30 - 16.20	Soft Ground with Grout Traces			
	16.20 - 20.00	Hard Strata			
C2	0.00 - 15.00	Cased off			
C2	0.00 - 18.00	Cleared BH			
		attached pressure			
		valve and comenced grouting.			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today	8	178	15	
Previous	33	810	36	
To date	41	988	51	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry tree Surgery	Sheet: 1-2
Rig: Hutte	Crew: IR	Date: 4-12-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C24	0.00-1.90	Made Ground	C28	0.00-2.10	Made Ground
	1.90-3.30	Clay		2.10-3.30	Clay
	3.30-3.70	Coal		3.30-3.80	Coal
	3.70-4.30	Mudstone		3.80-4.30	Mudstone
	4.30-5.10	Coal		4.30-5.10	Coal
	5.10-15.60	Mudstone		5.10-15.50	Mudstone
	15.60-17.10	Grout		15.50-16.90	Grout
	17.10-20.00	Mudstone		16.90-20.00	Mudstone
C26	0.00-2.10	Made Ground	C29	0.00-2.00	Made Ground
	2.10-3.40	Clay		2.00-3.20	Clay
	3.40-3.80	Coal		3.20-3.70	Coal
	3.80-4.30	Mudstone		3.70-4.20	Mudstone
	4.30-5.10	Coal		4.20-5.00	Coal
	5.10-15.50	Mudstone		5.00-15.60	Mudstone
	15.50-17.20	Grout		15.60-16.70	Coal
	17.20-20.00	Mudstone		16.70-20.00	Mudstone
C27	0.00-1.80	Made Ground	C30	0.00-1.60	Made Ground
	1.80-3.30	Clay		1.60-3.40	Clay
	3.30-3.80	Coal		3.40-3.80	Coal
	3.80-4.20	Mudstone		3.80-4.30	Mudstone
	4.20-5.00	Coal		4.30-5.00	Coal
	5.00-15.60	Mudstone		5.00-15.50	Mudstone
	15.60-16.80	Grout		15.50-16.80	Grout
	16.80-20.00	Mudstone		16.80-20.00	Mudstone

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	7	158	15	
						Previous	41	988	51	
						To date	48	1146	66	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry Tree Surgery	Sheet: 2 - 2
Rig: Hutte	Crew: IR	Date: 4-12-23

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C32	0.00 - 3.60	Made Ground			
Shaft	3.60 - 4.50	Mudstone			
	4.50 - 15.60	Semi Soft Grout			
	15.60 - 20.00	Mudstone			
C32	0.00 - 15.00	Cased			
C32	0.00 - 18.00	Cleared out BH			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	7	158	15	
						Previous	41	988	51	
						To date	48	1146	66	

Signed..... Driller

Demolition & Geotechnical Limited

Mobile : 07792 920 854

Email: Thomas@demolitionandgeotechnical.co.uk

Drillers log	Site: Cherry Tree Surgery	Sheet: 1/1
Rig: Hutte	Crew: I, R	Date: 6-12-23

Equipment used:

BH	Depth	Strata Description
TH1	0.00-0.60	Made Ground
P7/C8	0.60-3.10	Clay
	3.10-3.60	Coal
	3.60-4.40	Mudstone
	4.40-5.00	Coal
	5.00-15.50	Mudstone
	15.50-16.80	Grout
	16.80-20.00	Mudstone
TH2		
P6/C3L	0.00-2.40	Made Ground
	2.40-3.20	Clay
	3.20-3.70	Coal
	3.70-4.40	Mudstone
	4.40-5.10	Coal
	5.10-15.60	Mudstone
	15.60-17.00	Grout
	17.00-20.00	Mudstone
TH6		
P14/C2S	0.00-3.30	Clay
	3.30-3.60	Coal
	3.60-4.30	Mudstone
	4.30-5.00	Coal
	5.00-15.50	Mudstone
	15.50-16.80	Grout
	16.80-20.00	Mudstone

BH	Depth	Strata Description
TH3	0.00-0.50	Made Ground
P1/S2	0.50-3.20	Clay
	3.20-3.80	Coal
	3.80-42.0	Mudstone
	4.20-4.90	Coal
	4.90-15.40	Mudstone
	15.40-16.80	Grout
	16.80-20.00	Mudstone
TH4	0.00-0.60	Made Ground
P11/P4	0.60-3.30	Clay
	3.30-3.80	Coal
	3.80-4.30	Mudstone
	4.30-4.90	Coal
	4.90-15.30	Mudstone
	15.30-16.70	Grout
	16.70-20.00	Mudstone
TH5	0.00-1.70	Made Ground
P12/P3	1.70-3.40	Clay
	3.40-3.80	Coal
	3.80-4.40	Mudstone
	4.60-5.10	Coal
	5.10-15.80	Mudstone
	15.80-16.80	Coal
	16.80-20.00	Mudstone

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today	6	120	0	
Previous	48	1146	66	
To date	54	1266	66	

Signed..... Driller

APPENDIX B

Grouting Records

D & G UK

GROUTING LOG SHEET

SITE: Cherry tree Surgery

CREW INTIALS: IR

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 10-11-23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT PFA	SAND	PEA GRAVEL
DELIVERED TODAY	3.75	18.8		
DELIVERED PREVIOUS	0	0		
DELIVERED TOTAL	3.75	18.8		
TOTAL USED	1.76	17.6		
STOCK ON SITE	1.99	1.2		

DELIVERY TICKET DETAILS

PFA:- 118236

CEM:- 1016128

0124/00181521

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT PFA	SAND	PEA GRAVEL
P2		/		4.4	0.4	4		
P3	/			0.11	001	0.1		
S1	/			1.65	0.15	1.5		
P5	/			5.5	0.5	5		
P7	/			4.4	0.4	4		
P6	/			3.3	0.3	3		

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / (YES)
mm	%	QTY 2

CT - P6 GT -1

TODAY TOTAL	19.36	1.76	17.6		
PREVIOUS TOTAL	0	0	0		
TO DATE TOTAL	19.36	1.76	17.6		

D & G UK

GROUTING LOG SHEET

SITE: Cherry tree surgery

CREW INTIALS: JF

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
IC	

DATE: 16/11/23 SHEET: 1 OF 1

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	0	18.7		
DELIVERED PREVIOUS	3.75	18.8		
DELIVERED TOTAL	3.75	37.5		
TOTAL USED	3.75	37.5		
STOCK ON SITE	6	0		

DELIVERY TICKET DETAILS

ASH: 118392

: 18.700

CEM 0

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
P1	✓			0.1	0.01	0.11		
S2		✓		7.48	0.68	6.8		
C2S		✓		6.6	0.6	6		
P2		✓		7.7	0.7	7		

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / (YES)
mm	%	QTY 3

CT
-GT
-2

TODAY TOTAL	21.89	1.99	19.9		
PREVIOUS TOTAL	19.36	1.76	17.6		
TO DATE TOTAL	41.25	3.75	37.5		

D & G UK

GROUTING LOG SHEET

SITE: Cherry tree Surgery

CREW INTIALS: IR

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 21-11-23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	4	18.8		
DELIVERED PREVIOUS	3.75	37.5		
DELIVERED TOTAL	7.75	56.3		
TOTAL USED	5.55	55.5		
STOCK ON SITE	2.25	0.8		

DELIVERY TICKET DETAILS

PFA:- 118486

Cem:- 1017832

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
C19	/			4.4	0.4	4		
P4	/			4.4	0.4	4		
C23	/			0.275	0.25	0.025		
C25	/			4.4	0.4	4		
C21	/			0.275	0.25	0.025		
P2		/		3.85	3.5	0.35		
S2		/		2.2	0.2	2		

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

CT
-GT
-3

TODAY TOTAL	19.8	1.8	18		
PREVIOUS TOTAL	41.25	3.75	37.5		
TO DATE TOTAL	61.05	5.55	55.5		

D & G UK

GROUTING LOG SHEET

SITE: Cherry Tree

CREW INTIALS: JF

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
JC	

DATE: 24/11/23 | SHEET: 1 OF 1

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	0	19		
DELIVERED PREVIOUS	7.75	56.3		
DELIVERED TOTAL	7.75	75.3		
TOTAL USED	6.15	61.5		
STOCK ON SITE	1.6	13.8		

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	BAGGED CEMENT	BAGGED P.F.A	SAND	PEA GRAVEL
C20	✓			0.22	0.02	0.2		
C17	✓			0.22	0.02	0.2		
C15	✓			0.22	0.02	0.2		
P2	✓			3.3	0.3	3		
S2	✓			2.64	0.24	2.4		

DELIVERY TICKET DETAILS

ASH: 118598

19 tons

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

TODAY TOTAL	6.6	0.6	6		
PREVIOUS TOTAL	61.05	55.5	55.5		
TO DATE TOTAL	68.01	6.15	61.5		

D & G UK

GROUTING LOG SHEET

SITE: drum tree surgery

CREW INTIALS: JA

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
JC	

DATE: 29/11/23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	~~BAG GROUT~~ P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	0	0		
DELIVERED PREVIOUS	7.75	75.3		
DELIVERED TOTAL	7.75	75.3		
TOTAL USED	63.5	63.5		
STOCK ON SITE	1.4	11.8		

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	~~BAG GROUT~~ P.F.A	SAND	PEA GRAVEL
C13	/			0.22	0.02	0.2		
C11	/			0.22	0.02	0.2		
C9	/			0.22	0.02	0.2		
C7	/			1.76	0.16	1.6		

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

TODAY TOTAL	2.2	0.2	2		
PREVIOUS TOTAL	68.01	6.15	61.5		
TO DATE TOTAL	70.03	6.35	63.5		

D & G UK

GROUTING LOG SHEET

SITE: Cherry Tree Surgery

CREW INTIALS: IR

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dabbs	

DATE: 30-11-23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	4	0		
DELIVERED PREVIOUS	7.75	75.3		
DELIVERED TOTAL	11.75	75.3		
TOTAL USED	6.75	67.5		
STOCK ON SITE	5	7.8		

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	Bar ~~PSI~~	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
C3 15M	✓		2	2.2	0.2	2		
C3 12M	✓		1.6	0.55	0.05	0.5		
C3 9M	✓		1.4	0.55	0.05	0.5		
C3 6M	✓		1.6	0.55	0.05	0.5		
C3 3M	✓		1.8	0.55	0.05	0.5		

all pressures held for 5minutes before Retracting Casing.

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / (YES)
mm	%	QTY 2

TODAY TOTAL	4.4	0.4	4		
PREVIOUS TOTAL	69.85	6.35	63.5		
TO DATE TOTAL	74.25	6.75	67.5		

D & G UK

GROUTING LOG SHEET

SITE: Cherry tree lane

CREW INTIALS: IR

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 2-12-23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	0	0		
DELIVERED PREVIOUS	11.75	75.3		
DELIVERED TOTAL	11-75	75.3		
TOTAL USED	6.95	69.5		
STOCK ON SITE	4.8	5.8		

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	Bar ~~PSI~~	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
C2 15m	✓		2.2	0.11	0.01	0.1		
C2 12m	✓		1.8	0.11	0.01	0.1		
C2 9m	✓		1.8	0.11	0.01	0.1		
C2 6m	✓		1.6	0.11	0.01	0.1		
C2 3m	✓		1.8	0.11	0.01	0.1		
	all pressures held and monitored for 5 Minutes before Retracting casing's							
C1 C18	✓							
C31 C22	✓							
C16 P13	✓							
P12 P11	✓							
P8 P9	✓			1.65	0.15	1.5		
P10 C4	✓							
C5 C6	✓			0.091	0.008	0.083	each	
C14 C8	✓							
C10 C12	✓							

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

TODAY TOTAL	2.2	0.2	2		
PREVIOUS TOTAL	74.25	6.75	67.5		
TO DATE TOTAL	76.45	6.95	69.5		

D & G UK

GROUTING LOG SHEET

SITE: Cherry Tree Surgery

CREW INTIALS: IR

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 4-12-23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	0	0		
DELIVERED PREVIOUS	11.75	75.3		
DELIVERED TOTAL	11.75	75.3		
TOTAL USED	7.05	70.5		
STOCK ON SITE	4.7	4.8		

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	Bar P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
C32 15m	✓		2.4	0.11	0.01	0.1		
C32 12m	✓		2.1	0.11	0.01	0.1		
C32 9m	✓		1.8	0.11	0.01	0.1		
C32 6m	✓		1.6	0.11	0.01	0.1		
C32 3m	✓		1.2	0.11	0.01	0.1		
C24	✓							
C26	✓							
C27	✓			0.55	0.05	0.5		
C28	✓			(0.09	0.008	0.083)		
C29	✓			each taken				
C30	✓							

all pressures held and monitored for 5 minutes. Slowley lost pressure at 3mts due to loss of seal around casing.

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

TODAY TOTAL	1.1	0.1	1		
PREVIOUS TOTAL	76.45	6.95	69.5		
TO DATE TOTAL	77.55	7.05	70.5		

GSS UK

GROUTING LOG SHEET

SITE: Cherry tree Surgery

CREW INTIALS: IR

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 6-12-23 | SHEET: 1 OF 1

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	0	0		
DELIVERED PREVIOUS	11.75	75.3		
DELIVERED TOTAL	11.75	75.3		
TOTAL USED	7.1	71		
STOCK ON SITE	~~6.65~~	4.3		

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
TH1	/							
TH2	/							
TH3	/			0.55	0.05	0.5		
TH4	/							
TH5	/							
TH6	/							

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

TODAY TOTAL	0.55	0.05	0.5		
PREVIOUS TOTAL	77.55	7.05	70.5		
TO DATE TOTAL	78.1	7.1	71		

APPENDIX C

Field Test and Laboratory Test Results

Ground Support Services (UK) LTD
Geotechnical and ground support foundation specialists
Unit D2B, Bryans Close, Harworth Ind Estate, Harworth, Doncaster, DN11 8RY
Phone: 01302 744 322

Slump and Bleed data

Site – Cherry Tree Surgery, Batley

Client – Dr Arif Shaikh. A to Z Medical Instruments Limited

Our Reference/s – 51030, 51018

Overview

Slump and Bleed testing are additional measures of grout testing to ensure that the grout mixed is of a suitable viscosity and fluidity for the application at hand.

The specification provided by the engineer will dictate the tolerance the results are to fall within but the generally accepted tolerances are

Slump test – 300mm to 600mm

Bleed test – 3% to 5%

Cubes at 28 days should achieve a crushing strength of 0.7 (based on G10 grout) as per generally accepted guidance however The Coal Authority have started stipulating 1 at 28 days.

More recently we have seen some engineers stipulate that over a large enough sample size, due to the nature of the works, it is the average that is important. This has therefore been included in this data.

The average slump test result is 416.6mm

The average bleed test result is 4.11%

The average strength of cubes is 1.26

The total amount of cubes is 9

Ground Support Services (UK) LTD
Geotechnical and ground support foundation specialists
Unit D2B, Bryans Close, Harworth Ind Estate, Harworth, Doncaster, DN11 8RY
Phone: 01302 744 322

No	Sheet Reference	Date	Tonnes	Bleed	Slump	Cube Site reference	Age at Test	Strength at test	Notes	No
1	CT-GT-1	10/11/2023	19.36	4	400					1
						CTS-1	35	1.6		
						CTS-2	35	1.5		
2	CT-GT-2	16/11/2023	21.89	5	500					2
						CTS-3	29	1.4		
						CTS-4	29	1.3		
						CTS-5	29	1.5		
3	CT-GT-3	21/11/2023	19.8	3	400					3
4	CT-GT-4	24/11/2023	6.6	4	400					4
						CTS-1	42	1.1		
						CTS-2	42	1.1		
5	CT-GT-5	29/11/2023	2.2	4	400					5
6	CT-GT-6	30/11/2023	4.4	4	400				Shaft	6
						CTS-3	36	0.8	Shaft	
						CTS-4	36	1	Shaft	
7	CT-GT-7	02/12/2023	2.2	4	350				Shaft	7
8	CT-GT-8	04/12/2023	1.1	4	400				Shaft	8
9	CT-GT-9	06/12/2023	0.55	5	500				Test Holes	9
Total			**78.1**	**4.111111**	**416.6667**	**9**	**34.77777778**	**1.266666667**		**Total**

Any queries on this information please contact us at the above office number

Thomas Perks

Sales and Technical

Ground Support Services

29 Rufford Court
Woolston
Warrington
WA1 4RF
United Kingdom
Tel: +44(0) 1925 286220

CONCRETE TEST CUBE REPORT

UKAS TESTING 0001

SOCOTEC

Date: 16/12/2023

Report no: WAB51501195_01

Client: GROUND SUPPORT SERVICES (UK) LTD

Scheme: 1068G- UNIT B2B BRYANS CLOSE, HARWORTH INDUSTRIAL

Contract no: 51059051

Request Sheet No.	Lab Ref.	Client Ref.	Date Made	Time Made	Date Received in Laboratory	Date Tested	Age days	Dimensions mm	Density kg/m³	Failure Load kN	Compressive Strength N/mm²	Specified Strength N/mm²
NOR035450	51501195	CTS-3	16/11/2023		14/12/2023	15/12/2023	29	100x100x100	1380	13.6	1.4	not given
Location: NOT GIVEN Mix details: G10 Remarks: Degree of saturation uncertain.												
NOR035450	51501196	CTS-4	16/11/2023		14/12/2023	15/12/2023	29	100x100x100	1440	13.0	1.3	not given
Location: NOT GIVEN Mix details: G10 Remarks: Degree of saturation uncertain.												
NOR035450	51501197	CTS-5	16/11/2023		14/12/2023	15/12/2023	29	100x100x100	1430	14.5	1.5	not given
Location: NOT GIVEN Mix details: G10 Remarks: Degree of saturation uncertain.												

The following apply unless otherwise stated under Remarks.

1) Laboratory curing range 18°-22°C.
2) Cube appearance as received satisfactory.
3) Test moisture condition and density saturated.
4) Cube failure normal. Concrete appearance normal.
5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
6) Laboratory curing conditions cannot be assured during tank cleaning.
7) Certificate of sampling not received. Certificate of making and curing not received.

8) Rate of Loading 0.4 to 0.8 N/mm² per sec.

Certified that curing of the hardened concrete in the laboratory and testing for shape, dimensions, density and compressive strength was carried out in accordance with BS EN 12390-1:2021, BS EN 12390-2:2019, BS EN 12390-7:2019 and BS 12390-3:2019
Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Julie Schofield - Concrete Section Manager

for and on behalf of SOCOTEC UK Limited

Issued to: GROUND SUPPORT SERVICES (UK) LTD, GROUND SUPPORT SERVICES (UK) LTD

Form L53GLA V.11/06/22

29 Rufford Court
Woolston
Warrington
WA1 4RF
United Kingdom
Tel: +44(0) 1925 286220

CONCRETE TEST CUBE REPORT

UKAS TESTING 0001

SOCOTEC

Date: 16/12/2023

Report no: WAB51501206_01

Client: GROUND SUPPORT SERVICES (UK) LTD

Scheme: 1068G- UNIT B2B BRYANS CLOSE, HARWORTH INDUSTRIAL

Contract no: 51059051

Request Sheet No.	Lab Ref.	Client Ref.	Date Made	Time Made	Date Received in Laboratory	Date Tested	Age days	Dimensions mm	Density kg/m³	Failure Load kN	Compressive Strength N/mm²	Specified Strength N/mm²
NOR035449	51501206	CTS-1	10/11/2023		14/12/2023	15/12/2023	35	100x100x100	1270	15.5	1.6	not given
Location: NOT GIVEN Mix details: G10 Remarks: Degree of saturation uncertain.												
NOR035449	51501207	CTS-2	10/11/2023		14/12/2023	15/12/2023	35	100x100x100	1310	15.2	1.5	not given
Location: NOT GIVEN Mix details: G10 Remarks: Degree of saturation uncertain.												

The following apply unless otherwise stated under Remarks.

1) Laboratory curing range 18°-22°C.
2) Cube appearance as received satisfactory.
3) Test moisture condition and density saturated.
4) Cube failure normal. Concrete appearance normal.
5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
6) Laboratory curing conditions cannot be assured during tank cleaning.
7) Certificate of sampling not received. Certificate of making and curing not received.

8) Rate of Loading 0.4 to 0.8 N/mm² per sec.

Certified that curing of the hardened concrete in the laboratory and testing for shape, dimensions, density and compressive strength was carried out in accordance with BS EN 12390-1:2021, BS EN 12390-2:2019, BS EN 12390-7:2019 and BS 12390-3:2019
Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Julie Schofield - Concrete Section Manager

for and on behalf of SOCOTEC UK Limited

Issued to: GROUND SUPPORT SERVICES (UK) LTD, GROUND SUPPORT SERVICES (UK) LTD

Form L53GLA V.11/06/22

29 Rufford Court
Woolston
Warrington
WA1 4RF
United Kingdom
Tel: +44(0) 1925 286220

CONCRETE TEST CUBE REPORT

UKAS TESTING 0001

SOCOTEC

Date: 05/01/2024

Report no: WAB51504009_01

Client: GROUND SUPPORT SERVICES (UK) LTD

Scheme: 1068G- UNIT B2B BRYANS CLOSE, HARWORTH INDUSTRIAL

Contract no: 51059051

Request Sheet No.	Lab Ref.	Client Ref.	Date Made	Time Made	Date Received in Laboratory	Date Tested	Age days	Dimensions mm	Density kg/m³	Failure Load kN	Compressive Strength N/mm²	Specified Strength N/mm²
NOR038084	51504009	CTS-1	24/11/2023		04/01/2024	05/01/2024	42	100x100x100	1460	11.4	1.1	not given
Location: NOT GIVEN Mix details: G10 Remarks: Damaged/Chipped. Degree of saturation uncertain.												
NOR038084	51504010	CTS-2	24/11/2023		04/01/2024	05/01/2024	42	100x100x100	1440	11.2	1.1	not given
Location: NOT GIVEN Mix details: G10 Remarks: Damaged/Chipped. Degree of saturation uncertain.												
NOR038084	51504011	CTS-3	30/11/2023		04/01/2024	05/01/2024	36	100x77x100	1430	6.1	0.8	not given
Location: NOT GIVEN Mix details: G10 Remarks: Does not meet the BSEN for Squareness & Flatness. Excess voids. Damaged/Chipped. Degree of saturation uncertain. Annex B Procedure used. Outside dimensional tolerances stated in BS EN 12390:3:2009. Load below Calibration												

The following apply unless otherwise stated under Remarks.

1) Laboratory curing range 18°-22°C.
2) Cube appearance as received satisfactory.
3) Test moisture condition and density saturated.
4) Cube failure normal. Concrete appearance normal.
5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
6) Laboratory curing conditions cannot be assured during tank cleaning.
7) Certificate of sampling not received. Certificate of making and curing not received.

8) Rate of Loading 0.4 to 0.8 N/mm² per sec.

Certified that curing of the hardened concrete in the laboratory and testing for shape, dimensions, density and compressive strength was carried out in accordance with BS EN 12390-1:2021, BS EN 12390-2:2019, BS EN 12390-7:2019 and BS 12390-3:2019
Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Julie Schofield - Concrete Section Manager

for and on behalf of SOCOTEC UK Limited

Issued to: GROUND SUPPORT SERVICES (UK) LTD, GROUND SUPPORT SERVICES (UK) LTD

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CONCRETE TEST CUBE REPORT

0001

Date: 05/01/2024

Report no: WAB51504011_01

Client: GROUND SUPPORT SERVICES (UK) LTD

Scheme: 1068G- UNIT B2B BRYANS CLOSE, HARWORTH INDUSTRIAL

Contract no: 51059051

Request Sheet No.	Lab Ref.	Client Ref.	Date Made	Time Made	Date Received in Laboratory	Date Tested	Age days	Dimensions mm	Density kg/m³	Failure Load kN	Compressive Strength N/mm²	Specified Strength N/mm²
								Parameters.				
NOR038084	51504012	CTS-4	30/11/2023		04/01/2024	05/01/2024	36	100x84x100	1470	8.5	1.0	not given
Location: NOT GIVEN												
Mix details: G10 Remarks: Damaged/Severely Chipped. Degree of saturation uncertain. Annex B Procedure used. Outside dimensional tolerances stated in BS EN 12390:3:2009. Load below Calibration Parameters.												

The following apply unless otherwise stated under Remarks.

1) Laboratory curing range 18°-22°C.
2) Cube appearance as received satisfactory.
3) Test moisture condition and density saturated.
4) Cube failure normal. Concrete appearance normal.
5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
6) Laboratory curing conditions cannot be assured during tank cleaning.
7) Certificate of sampling not received. Certificate of making and curing not received.

8) Rate of Loading 0.4 to 0.8 N/mm² per sec.

Certified that curing of the hardened concrete in the laboratory and testing for shape, dimensions, density and compressive strength was carried out in accordance with BS EN 12390-1:2021, BS EN 12390-2:2019, BS EN 12390-7:2019 and BS 12390-3:2019
Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Julie Schofield - Concrete Section Manager

for and on behalf of SOCOTEC UK Limited

Issued to: GROUND SUPPORT SERVICES (UK) LTD, GROUND SUPPORT SERVICES (UK) LTD

Form L53GLA V.11/06/22

GROUNDSMITHS

GEOTECHNICAL ENGINEERS