



GROUNDTECH
CONSULTING

DENBY LANE, GRANGE MOOR

DRILL AND GROUT VALIDATION REPORT

ORION HOMES

DECEMBER 2025



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TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	PROJECT OBJECTIVES	1
1.2	PROPOSED DEVELOPMENT	1
1.3	SITE SETTING.....	1
1.4	PREVIOUS REPORTS	2
2.0	REVIEW OF PREVIOUS INVESTIGATIONS.....	3
2.1	INTRODUCTION.....	3
2.2	PRELIMINARY COAL MINING RISK ASSESSMENT (CMRA)	3
2.3	SCOPE OF WORKS	5
2.4	GROUND MODEL.....	5
2.5	COAL SEAMS IDENTIFIED BY THE INVESTIGATION(S)	7
3.0	REVIEW OF GROUTING SPECIFICATION	8
3.1	SCOPE OF WORKS	8
3.2	GROUTING INFORMATION.....	8
4.0	DRILLING AND GROUTING WORKS	10
4.1	COAL AUTHORITY PERMITS	10
4.2	SCOPE OF WORKS	10
4.3	GROUND CONDITIONS	10
4.4	GROUTING WORKS TO MEASURE GROUT INTAKE	11
4.5	GROUT TESTING	12
5.0	CONCLUSIONS.....	13

- APPENDIX 1 - PLANS
- APPENDIX 2 - SITE PHOTOGRAPHS
- APPENDIX 3 - COAL AUTHORITY PERMIT
- APPENDIX 4 - DRILL AND GROUT LOGS
- APPENDIX 5 - STRENGTH TESTING RESULTS
- APPENDIX 6 - LIMITATIONS

Plans		
<i>Plan Reference</i>	<i>Revision</i>	<i>Title</i>
<i>GRO-24078-P08</i>	<i>1.4</i>	<i>Drill and Grout Locations Plan</i>
<i>GRO-24078-P10</i>	<i>-</i>	<i>Final Drill Plan</i>
<i>GRO-24078-P11</i>	<i>-</i>	<i>Final Grouting Plan</i>

1.0 INTRODUCTION

1.1 Project Objectives

This document presents the validation of the drilling and grouting exercise carried out at a site at Denby Lane in Grange Moor as set out in the Groundtech Consulting Ltd *'Drill and Grout Specification'* (Ref. GRO-24078-5979_1.1).

The works were carried out in order to stabilise potential mine workings identified during the Ground Investigation in the southern area of the site.

The objective of the drilling and grouting is to identify the presence of historic workings that could potentially affect the stability of the surface of the site and the proposed development. Where encountered, the workings will be treated and the supervision and this report will provide evidence that the works have been completed in accordance with approved specification.

1.2 Proposed Development

The proposed development is residential end use comprising the construction of 20 residential dwellings with associated private gardens, driveways and infrastructure.



1.3 Site Setting

The site is located circa 6.8 miles east of Huddersfield Town Centre, as shown on the Project Location Plan GRO-24078-P01. The site is approximately centred on National Grid Reference 422351, 416268.



The site is irregular in shape and generally topographically level, a grassed embankment is present along the western boundary. The site is occupied by a large slightly overgrown field, surface with grass and sparse shrubbery near the western and eastern site boundaries.

A 300mm diameter culverted watercourse (Briestfield Beck) is indicated to flow from south to north along the eastern boundary and an adopted 225mm diameter combined sewer flows from south to north along the western boundary. Gas utilities are indicated to run parallel to the southern boundary.

1.4 Previous Reports

The following reports have been previously completed for the site and should be read in conjunction with this report:

- *Phase 1 Geo-Environmental Report produced by Haigh Huddleston & Associates (Ref. E21/7792/R001), dated July 2021*
- *Geo-Environmental Appraisal produced by Lithos Consulting (Ref. 4511/1), dated December 2022*
- *Gas Assessment produced by Lithos Consulting (Ref. 016/4511/AG/JHR), dated May 2023*
- *Geo-Environmental Appraisal produced by Groundtech Consulting (Ref. GRO-24078-5170_1.1), dated 22 May 2024*
- *Ground Gas Risk Assessment produced by Groundtech Consulting (Ref. GRO-24078-5293_1.2), dated 09 May 2025*
- *Remedial Specification produced by Groundtech Consulting (Ref. GRO-24078-5847), dated June 2025*
- *Drill and Grout Specification produced by Groundtech Consulting (Ref. GRO-24078-5979_1.1), dated 20 August 2025.*



2.0 REVIEW OF PREVIOUS INVESTIGATIONS

2.1 Introduction

The following section summarises the below previous reports which have been completed for the site with respect to previous coal mining beneath the site.

- *Phase 1 Geo-Environmental Report produced by Haigh Huddleston & Associates (Ref. E21/7792/R001) dated July 2021*
- *Geo-Environmental Appraisal produced by Lithos Consulting (Ref. 4511/1) dated December 2022*
- *Geo-Environmental Appraisal produced by Groundtech Consulting (Ref. GRO-24078-5170_1.1) dated 22 May 2024*

2.2 Preliminary Coal Mining Risk Assessment (CMRA)

A Coal Mining Risk Assessment was carried out by Haigh Huddleston & Associates as part of the Preliminary Risk Assessment and a Consultants Coal Mining Report was carried out by Lithos as part of the Geo-Environmental Appraisal which comprised a desk-based review of all available information related to coal mining at the site and should be read in conjunction with this report. The key findings are summarised below:

Superficial and Bedrock Geology

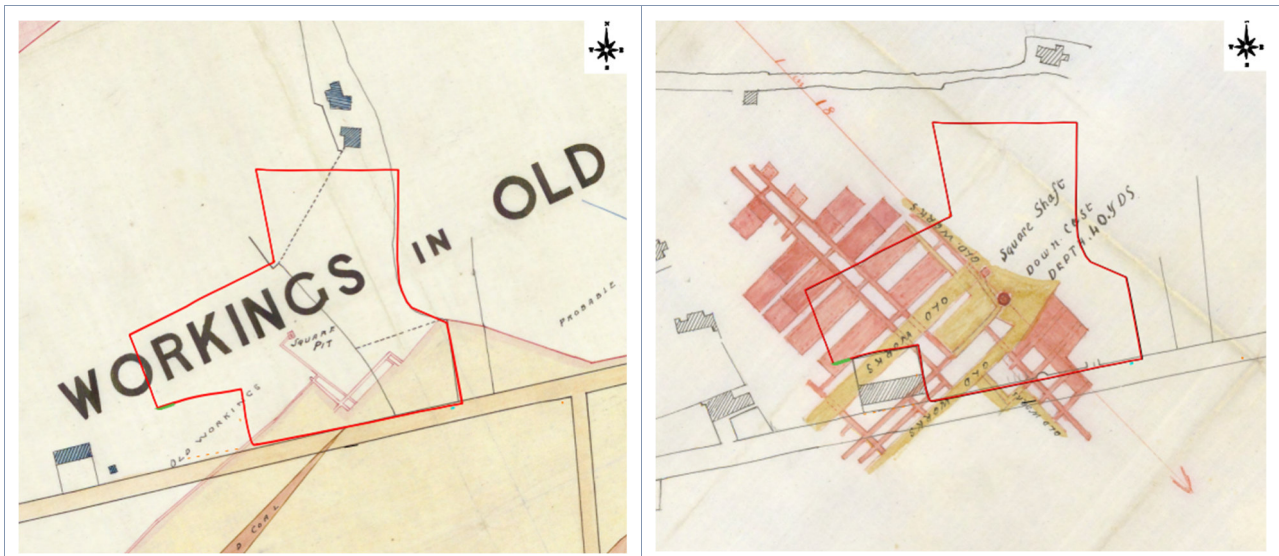
No superficial deposits are indicated beneath the site. The solid geology is indicated to be the Pennine Lower Coal Measures beneath the majority of the site which comprises Mudstone, Siltstone, and Sandstone with Coal seams. The south west of the site is indicated to be underlain by the Birstall Rock Formation which characteristically comprises Sandstone.

Coal Seams

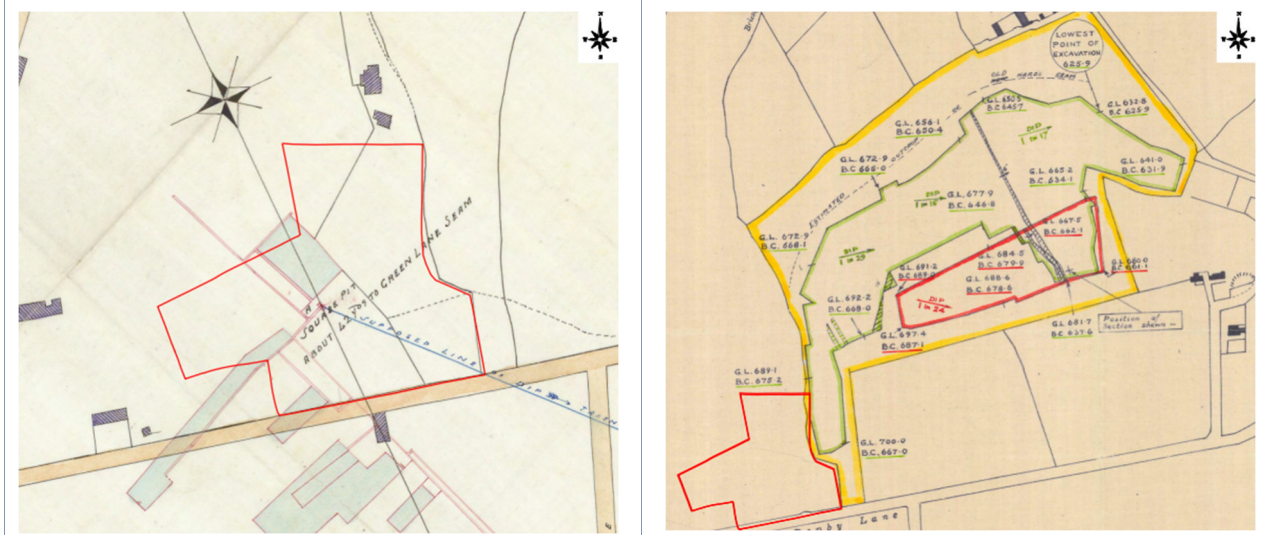
The two shallowest Coal Seams assumed to be present beneath the site are the 2nd Brown Metal (Old Hards Coal/Low Fenton Coal) and 3rd Brown Metal (Stone Coal). The shallowest is the 2nd Brown Metal which is shown to subcrop directly north of the site with an indicative thickness of 0.3m to 0.7m begl. The 3rd Brown Metal Coal is shown to subcrop 190m north of the site lying approximately 15m below the 2nd Brown Metal with an indicative thickness of 0.2m to 0.6m. All other coal seams were considered to be at a significant depth beneath the site to not pose a risk to the proposed development.

Recorded Coal Mining

The site is in an area requiring a coal mining report. The Coal Authority report states that past underground mining has been recorded in 7 seams beneath the site between 5m and 245m depth. The shallowest coal seam underlying the site is anticipated to be the 2nd Brown Metal seam which subcrops 34.5m north of the site, present beneath the site at shallowest depths of 5m begl. The 2nd Brown Metal is indicated to be last worked in 1865. Abandonment Plans were obtained by Lithos as part of the desk based study for all recorded workings at less than 50m depth beneath the site as presented below:



Abandonment Plan for 2nd Brown Metal (left) and Middleton Little (right)



Middleton Little (left) and Hunt Royd Opencast Mine

The BGS Technical Report WA/98/6 suggests that the 3rd Brown Metal is absent from the Grange Moor area and also was only likely worked by opencast methods. If the 3rd Brown Metal is beneath the site, it is likely unworked and may explain why there are no recorded workings in this coal seam in the CA Report or Abandonment Plans.

Mine Entries

There are no recorded mine entries on or within 20m of the subject site, mine entries are known to be located to the west of the site on the adjacent scrubland.

Probable Unrecorded Coal Mining

There are probable unrecorded shallow workings present beneath the site. The site is in an area which may be affected by the working of two shallow coal seams which are the 2nd Brown Metal (Old Hards Coal/Low Fenton Coal) and 3rd Brown Metal (Stone Coal) Coal.



Coal Authority Interactive Map

The Coal Authority interactive map indicates that the entire site lies within Development High Risk Area and recorded coal workings are present beneath the southern area of the site. The remainder of the site lies within an area of probable workings.

A former unlicensed opencast site is present adjacent to the site to the east.

2.3 Scope of Works

Lithos Consulting Ltd

The following scope of works was completed by Lithos in October 2022 for a wider site area, the exploratory holes listed below are relevant to the subject site:

- 10 No. machine excavated trial pits to a maximum depth of 2.9m begl
- 3 No. soakaway tests within TP02, TP07 and TP10 to determine feasibility of SuDS
- 5 No. rotary open hole probeholes to a maximum depth of 30m begl

Groundtech Consulting Ltd

The following scope of works was completed by Groundtech between the dates of 26th March and 27th March 2024:

- 5 No. rotary open holes (RO1 to RO5) were drilled to depths of between 10m and 21m begl using a Commacchio 205 drilling rig
- 6 No. windowless sampling boreholes (WS01 to WS06) were drilled to depths between 2.0m and 4.0m bgl using a Dando Terrier window sampling rig
- 11 No. machine excavated trial pits (TP01 to TP11) were excavated to depths of between 3.0m and 3.3m begl using a JCB mechanical excavator

2.4 Ground Model

Surfacing

The surfacing of site generally comprised grass over dark brown slightly clayey slightly gravelly sandy occasionally ashy topsoil with minor constituents of brick and rootlets to depths of between 0.2m and 0.5m begl. No topsoil was noted during the Lithos investigation at TP01 in the south eastern area of site, granular Made Ground surfaced this location.

Made Ground

Made Ground was encountered during the Groundtech investigation beneath the eastern, central and southern areas of site in WS01 to WS02, TP04, TP06 to TP09 and RO1 to RO5 to depths of between 0.5m and 3.2m begl, however was generally recorded at depths of less than 1.0m begl. The Lithos Consulting investigation found the same population of granular Made Ground in TP03 and TP04 in central area of site, in the area of the former sewage works to a maximum depth of 0.8m begl.

The Made Ground generally comprised one main population consisting of dark brown gravelly clayey sand with minor constituents of brick and ceramic from between ground level to a maximum depth of between 0.5m. Occasional minor constituents of plastic, wood and sandstone was encountered in the central area of site.



Natural Ground

No superficial deposits are indicated beneath the site, and the identified natural ground is considered to be residually weathered bedrock deposits.

One main natural stratification was encountered during the Groundtech Investigation. Firm becoming stiff medium to high strength grey mottled brown occasionally sandy slightly gravelly silty Clay with minor constituents of sandstone and mudstone was encountered in all exploratory holes (except TP04) from depths of between 0.25m and 1.1m begl to depths of between 1.0m and 4.5m begl (Pennine Lower Coal Measures).

The above natural population was also encountered in all trial pit locations undertaken by Lithos Consulting to depths of between 1.6m and 2.4m begl. The Lithos investigation also encountered a band of angular to subangular fine to coarse gravel of sandstone in TP01 to TP07 between depths of 1.6m and 3.1m begl. This only encountered in the Groundtech Investigation at TP04 along the western site boundary and may be associated with the adjacent opencast site.

Bedrock

Competent bedrock was encountered during the Groundtech Investigation in WS01 to WS05, TP01 to TP11 and RO1 to RO5 from depths of between 1.3m and 4.5m begl and was encountered at greater depths in the southern area of site. This is consistent with the Lithos investigation whereby bedrock was encountered beneath the site in TP02 to TP06, TP24, PH01, PH02 and PH09 from minimum depths of between 0.9m and 3.5m begl.

The bedrock consisted of extremely weak grey brown Mudstone residually weathered recovered as stiff sandy gravelly clay. Variable thick bands of Siltstone were generally encountered at greater depths within the rotary boreholes.

Coal was encountered in WS02, WS03 and TP01 to TP03 in the extreme northern extent of site from depths of between 1.9m and 2.8m begl to depths of between 2.1m and 3.0m begl. The thickness of the coal was recorded as between 0.2m and 0.45m and this is indicated to be the 2nd Brown Metal Coal, which was identified in the Lithos investigation (TP06 and TP05) between 1.9m and 2.6m begl in the north of the site.

Intact coal was also present in the Groundtech Investigation in RO2 at 8.0m to 9.0m begl, RO3 at 8.0m to 8.5m bgl, RO4 at 8.0m to 8.5m begl and RO5 at 7.5m to 8.2m begl. Coal was encountered in the Lithos probeholes between 7.0m and 8.8m begl.

Groundwater

In the Lithos investigation, a single groundwater seepage was recorded in TP06 at 3.1m begl in the bedrock deposits.

The Groundtech investigation observed groundwater in WS01 to WS03, WS06, TP01, TP04 and TP11 in the natural sandy weathered clay and shallow residually weathered bedrock deposits. Perched groundwater seepages were encountered in the granular Made Ground of TP06, TP07 and TP09 at 0.3m, 0.6m and 1.0m begl, respectively.

2.5 Coal Seams Identified by the Investigation(s)

Evidence of shallow coal mine working was recorded in two locations drilled at the site across the two phases of investigation by Lithos Consulting and Groundtech Consulting as detailed in the table below:

Location	Depth Coal Encountered (m bgl)	Thickness (m)	Seam Condition
RO1	14.0 – 15.0	1.0	<i>Void encountered and loss of flush (workings)</i>
RO2	10.5 – 11.0	0.5	<i>Intact</i>
RO3	8.0 – 8.7	0.7	<i>Intact</i>
RO4	8.0 – 8.5	0.5	<i>Intact</i>
RO5	7.5 – 8.2	0.7	<i>Intact</i>
PH01A	8.1 – 8.8	0.7	<i>Intact</i>
PH02	4.0 – 4.1	0.1	<i>Intact</i>
PH02	6.4 – 6.9	0.5	<i>Intact</i>
PH03	3.1 – 3.8	0.7	<i>Intact</i>
PH09	9.6 – 10.5	0.9	<i>Void encountered and loss of flush (workings)</i>
PH10	7.0 – 7.7	0.7	<i>Intact</i>



3.0 REVIEW OF GROUTING SPECIFICATION

3.1 Scope of Works

It was recommended that the suspected mine workings were stabilised by drilling and grouting in accordance with the procedure outlined below and in general accordance with CIRIA C758.

The drilling and grouting works will focus on the proposed residential plots in the vicinity of recorded broken ground. It is proposed that these works will further establish the extent of any workings by trial drilling and grouting, with an option to increase the hole density and the extent of the treatment where evidence of workings and high grout intake are recorded.

The proposed drilling and grouting work is presented on Groundtech Plan *GRO-24078-P08_1.1* in *Appendix 1*. This was confined to the southern area of the site and includes Plots 1, 2 and 21. If high grout intakes were recorded in these plots, additional grouting may be required in Plots 3 to 6.

It was recommended that the potential workings beneath these plots were stabilised by drilling rotary holes on a 6m grid over the plots and in the centre which equates to a 4.5m grid, to depths extending at least 2m below the floor of suspected workings. When drilled, the holes will require filling with a grout mix. If the grout take in any of the holes is greater than 1 tonne(s), secondary holes will need to be drilled on a 3m x 3m grid.

Rotary holes should be advanced along proposed development roads at 12m centres. When drilled, the holes will require filling with a grout mix. If the grout in any of the holes is greater than 5 tonne(s) secondary holes will need to be drilled at 6m centres.

Upon completion of the cased borehole, the drill string will be withdrawn, and the hole grouted up from the base using a cement/PFA (fly ash) mixture to the surface. Grout may be delivered through the drill string, an approved T-connection and flexible tubing, or series of steel tubes depending on the equipment available and subject to approval from the supervising engineer.

An attempt shall be made to introduce grout into all boreholes drilled, whether or not voids or broken ground were encountered and irrespective of the results of any permeability tests carried out in the boreholes.

3.2 Grouting Information

The filling material shall consist of a PFA/OPC which should be mixed in the proportions of 10:1 where water is present, but which may range up to 16:1 in dry conditions. The exact proportion of the mix to be used at any one time shall be as instructed by the Engineer. Where excessive lateral flow of grout is anticipated or experienced the Engineer may order the addition of sand or pea gravel to the PFA/cement mix. The specified grout mix shall have the minimum water content consistent with effective pumping.

For quality control purposes, grout should be sampled and tested as appropriate for density, bleed and flow properties. Cube strengths should be determined as recommended in BS 1881-122:2011. Density and flow properties can be monitored through the following:

- *Grout flow meter tests*
- *Bleed tests*



A water/(cement and PFA) ratio in the range of 0.4 to 0.45 should be such that the mixes produced will be pumpable and flowability should be confirmed with suitable flow meters. The mixes envisaged should produce pumpable grout with lucidity readings of 300 to 600mm.

The Contractor shall make 150mm test cubes according to BS 1881. These shall be tested at an independent testing laboratory and the result forwarded directly to the Engineer within 24 hours of the test. The minimum strength at 28 days should be 1.0MN/m². The cubes shall be marked, handled, stored and tested in accordance with BS 1881 to confirm the projected 14 and 28 day strengths of the grout. The Contractor shall arrange for them to be tested by crushing at 7 and 28 days in accordance with BS 1881.



4.0 DRILLING AND GROUTING WORKS

4.1 Coal Authority Permits

Coal Authority Permits for the works discussed in the following sections were obtained by Groundtech Consulting Ltd prior to the commencement of the works. The Coal Authority Permit are presented in *Appendix 3*.

4.2 Scope of Works

The following scope of works was carried out by Demolition & Geotechnical Ltd between 10th October and 31st October 2025:

- 19 No. rotary holes were drilled on a 6m x 6m primary grid and subsequently grouted
- 46 No. rotary holes were drilled on a 3m x 3m secondary grid and subsequently grouted
- 8 No. rotary holes were drilled every 6m across the proposed roads
- 2 No. rotary test holes were drilled and subsequently pressure grouted on completion of the drill and grout works to confirm the stabilisation of the site

The drillers logs are presented in *Appendix 4* and the exploratory hole plan reference *GRO-23144-P08_1.3* is presented in *Appendix 1*.

4.3 Ground Conditions

Overburden

Superficial and Made Ground was encountered to maximum depths of between 1.1m and 3.0m begl.

Bedrock

Interbedded units of Mudstone and Sandstone bedrock were encountered from depths of between 1.2m and 3.0m bgl.

Coal

The 2nd Brown Metal coal was encountered during the drill and grout exercise in 42 of the rotary boreholes undertaken from depths of between of 5.8m begl and 10.2m begl and was recorded to be between 0.6m and 1.3m in thickness.

No further Coal seams were encountered during the works in the locations which were advanced to 30m begl.

Broken/Soft Ground & Grout

Evidence of shallow coal mine workings (broken/soft ground) was encountered in 31 of the rotary boreholes undertaken at the site from depths of between 7.0m begl and 10.2m begl. The broken/soft ground recorded was between 1m and 2m in thickness across the treatment area and is considered to be associated with the 2nd Brown Metal Coal.

Evidence of grout was recorded in 7 locations across the site during the drilling of the secondary boreholes between the depths of 7.7m begl and 8m begl and was between 1.1m and 1.4m in thickness.

Broken Ground was recorded in location E3 between the depths of 1.2m and 2.9m begl in the bedrock deposits which were deemed to be anomalous and with respect the remainder of the locations undertaken

and CA recorded. Subsequent excavations determined this to be associated with a culvert and images are presented in the extract below:



Below ground culvert encountered in location E3

Evidence of broken ground was recorded in location K1 between the depths of 1.2m begl and 4.5m begl and a brick feature was identified at the surface. Further investigation of the feature was undertaken during the treatment exercise which determined this to be associated with a former Yorkshire Water pumping station.

4.4 Grouting Works to Measure Grout Intake

Grouting was completed in accordance with the Specification produced by Groundtech Consulting under part time supervision by Groundtech Consulting. A summary of the grout intake on all boreholes is presented below and the final drill plan is presented on Groundtech plan *GRO-24078-P11* in *Appendix 1*.

Broken ground and soft drilling was recorded in 31 of the rotary boreholes undertaken at the site between the depths of 7.0m begl and 10.2m begl and is considered to be associated with former workings in the 2nd Brown Metal seam. No further intact coal or broken ground/soft drilling was recorded below the 2nd Brown Metal to a depth of 30m begl.

Excessive grout intake above the threshold of 1 tonne was recorded in locations E9 and G9 at quantities of 16.5 tonnes and 28.6 tonnes respectively. Grout intake was recorded above the threshold of 1 tonne in a further 8 locations undertaken across the treatment area at quantities of between 1.1 tonnes and 2.2 tonnes. Secondary boreholes were subsequently positioned across the treatment area on a 3m x 3m grid to ensure stabilisation of the workings in accordance with the drill and grout specification.

No further grout intake was recorded above the 1 tonne threshold detailed within the specification during the secondary holes and the grout intake was between 0.11 and 0.22 tonnes indicating that the workings beneath the site were stabilised in the initial boreholes.

The excessive grout intake recorded in locations E9 and G9 is considered to be due to the dip of the 2nd Brown Metal to the south which would cause the grout to migrate down the seam away from the immediate vicinity of the boreholes.

The remainder of the boreholes recorded a grout intake of between 0.11 and 0.22 tonnes which approximately equates to the volume of the borehole. This indicates no voids or broken ground are present in the intact coal in this area.



Test Holes

On completion of the primary and secondary boreholes two test holes (TH1, TH2) were positioned in accordance with CIRIA C758 in areas where grout intake was recorded above the threshold of 1 tonne. Both of the test boreholes encountered grout between the depths of 7.6m begl and 8.4m begl and was between 1.3m and 1.2m in thickness respectively. No further evidence of intact coal or shallow workings was encountered to 30m begl in the test holes drilled.

On completion of the pressure grouting in the two locations to confirm all voids within the shallow workings and been filled. The grout take within the test boreholes was 0.33 tonnes and 0.22 tonnes respectively and both boreholes rejected grout for 5 minutes at pressures of between 1.3 and 1.6 bar respectively.

4.5 Grout Testing

Throughout the drilling and grouting works - bleed capacity, flowability, and strength testing was conducted by Demolition & Geotechnical Ltd in accordance with the Groundtech Consulting Drill and Grout Specification to demonstrate that the grout was suitable for use.

A minimum of two flowability tests were undertaken per week with readings of between 300mm and 600mm deemed suitable and two bleed capacity tests taken per shift. All flowability results were recorded between 300mm and 360mm and are considered acceptable. According to Standard EN 12715, a suspension is stable when it has a bleed capacity of not more than 5%. All bleed capacity tests recorded readings of between 3% and 4%. The bleed capacity and flowability testing results are presented on the drill and grout logs in *Appendix 4*.

As the site is being developed residentially, the grout mix generally consisted of PFA: cement grout which should be mixed in the proportions of 10:1 where water is present. Two representative cubes were taken of the grout mixes per week in order to test its strength. The strength of the grout should be no less than 1.0MN/m² at 28 days. All tests recorded strengths of between 1.0 MN/m² and 2.5 MN/m² at 28 days confirming that the grout was acceptable for use. The strength testing results can be found in *Appendix 5*.



5.0 CONCLUSIONS

All the boreholes were set out by a surveyor using GPS in accordance with the drill and grout plan and grouted to ground level successfully. Secondary boreholes were positioned where grout intake exceeded the threshold of 1 tonne in accordance with the drill and grout specification and the remainder of the boreholes drilled across the north of the site and grout intake was recorded at 0.22 tonne or less.

The grout testing has recorded results within the tolerable ranges detailed in the specification and is considered suitable for use.

On completion of the drill and grout programme, it is concluded that no further remedial action is required and the surface of the site is stable.



APPENDIX 1 - Plans



	<ul style="list-style-type: none"> ● Primary 6m x 6m grid ● Secondary 4.5m centres ● Road Probes at 12m intervals ● INFILL HOLES
A Watching Brief should be in place for unrecorded mine entries during site wide topsoil strip	

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CLIENT	ORION HOMES
PROJECT TITLE	DENBY LANE, GRANGE MOOR
PLAN TITLE	DRILL AND GROUT PLAN

DATE	AUGUST 2025
SCALE	NTS
PLAN NUMBER	GRO-24078-P08

1.1	REVISION OF DEVELOPMENT LAYOUT	20 AUGUST 2025	
1.2	REVISION OF GRID LAYOUT	20 OCTOBER 2025	
1.3	ADDITION OF INFILL HOLES	22 OCTOBER 2025	
1.4	REVISION OF TEST HOLES	20 NOVEMBER 2025	
Rev.	Details	Date	

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

	AREA NOT REQUIRING DRILL AND GROUTING
	PLOTS POTENTIALLY REQUIRING DRILL AND GROUT DEPENDING ON GROUT TAKES OF PLOTS 1/2 AND 21

LOCATIONS OF DRILL HOLES RE APPROXIMATE AND SHOULD BE POSITIONED ONSITE AT THE REQUIRED SPACING IN ACCORDANCE WITH THE SPECIFICATION



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CLIENT ORION HOMES	DATE AUGUST 2025
PROJECT TITLE DENBY LANE, GRANGE MOOR	SCALE NTS
PLAN TITLE FINAL DRILL PLAN	PLAN NUMBER GRO-24078-P10

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes	
●	ROTARY HOLES WHERE INTACT COAL ENCOUNTERED
●	ROTARY HOLES WHERE EVIDENCE OF SHALLOW WORKINGS ENCOUNTERED
●	ROTARY HOLES WHERE EVIDENCE OF GROUT ENCOUNTERED





	<ul style="list-style-type: none"> ● Primary 6m x 6m grid ● Secondary 4.5m centres ● Road Probes at 12m intervals
	<p>A Watching Brief should be in place for unrecorded mine entries during site wide topsoil strip</p>



CLIENT ORION HOMES	DATE AUGUST 2025
PROJECT TITLE DENBY LANE, GRANGE MOOR	SCALE NTS
PLAN TITLE FINAL GROUTING PLAN	PLAN NUMBER GRO-24078-P10

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes	
●	GROUT INTAKE OF LESS THAN 1 TONNE RECORDED
●	GROUT INTAKE EXCEEDING 1 TONNE RECORDED
●	EXCESSIVE GROUT INTAKE RECORDED
⊕	LOCATION OF TEST HOLE WITH PRESSURE GROUTING ON COMPLETION OF DRILL AND GROUT





APPENDIX 2 - Site Photographs



Photograph 1 – Drill and Grout works



Photograph 2 – Photograph during the delivery of PFA.



Photograph 3 – Photograph of grout mixing equipment.



Photograph 4 – Drill and Grout works



Photograph 5 – Photograph of grout cubes gathered during the works



Photograph 6 – Photograph of grout flow testing equipment.



Photograph 7 – Photograph during TH2



Photograph 8 – Pressure gauges during grouting of TH2.



APPENDIX 3 - Coal Authority Permit



Mining
Remediation
Authority

Permit to Enter or Disturb Mining Remediation Authority Interests

Permit 30454

Name and Address of Permit Holder:

*Orion Homes Limited
5 Benton Office Park, Bennett Avenue,
Horbury
Wakefield
WF4 5RA*

Site Location:

*Denby Lane
Grange Moor
Red Deer Park Lane
Dewsbury
WF12 0NR*

This certificate hereby grants the above named Permit Holder a Permit to carry out:-

Treatment of shallow mine workings by drilling and grouting to 40m on 6m grid

within the Authority's interests at the identified site location above as shown on the Grant Permit Boundary (overleaf) for the period of **12 months** from the granted date shown below. *The granting of this Permit does not constitute advice given by the Authority in relation to the proposed operations. It is the Permit Holder's responsibility to obtain appropriate health, safety, environmental, technical and legal advice.*

Conditions:

- *Manned entry (i.e.) into mine entries/workings) is strictly prohibited.*
- *Water flush*
- *Gas Monitoring CO, CH₄, CO₂, O₂, H₂S at borehole and rig*
- *Operators undertaking the work must be in possession of this certificate and the Permit boundary plan at the time of works*
- *Appropriate borehole sealing without delay and to withstand site level changes*

Signed: Granted Date: **22nd September 2025**

For and on behalf of the Mining Remediation Authority

Nominated Representative: Amy McKenna, Permitting Manager;



Mining
Remediation
Authority

Granted Permit Boundary

Permit Ref: 30454

Permit Boundary:



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The Mining Remediation Authority is the trading name of the Coal Authority ('TCA') established pursuant to Section 1 of the Coal Industry Act 1994, of 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG. The Coal Authority remains the legal name of the Authority



APPENDIX 4 - Drill and Grout Logs



DRILLING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS G3 RIG: C6 xp2

LEAD DRILLER INITIALS	LEAD DRILLER SIGNED
DS	

DATE: 10/10/25 SHEET: 1 OF 1

EQUIPMENT USED:

BH	DEPTH	STRATA DESCRIPTION
E1	0.00 - 1.20	made ground
	1.20 - 5.80	sandstone
	5.80 - 6.90	coal
	6.90 - 20.20	sandstone
	20.20 - 21.00	dark mudstone
E3	21.00 - 30.00	sandstone
	0.00 - 1.20	made ground
	1.20 - 2.90	broken
E3a	2.90 - 6.00	hard strata
	0.00 - 1.30	made ground
	1.30 - 9.10	sandstone
	9.10 - 10.50	broken
G1	10.50 - 15.00	hard strata
	0.00 - 1.20	made ground
	1.20 - 8.80	sandstone
	8.80 - 10.00	coal
	10.00 - 15.00	sandstone

BH	DEPTH	STRATA DESCRIPTION
i1	0.00 - 1.20	made ground
	1.20 - 8.80	sandstone
	8.80 - 9.90	coal
	9.90 - 15.00	sandstone
i3	0.00 - 1.20	made ground
	1.20 - 8.60	sandstone
	8.60 - 9.20	coal
	9.20 - 10.80	broken
	10.80 - 15.00	hard strata
G3	0.00 - 1.20	made ground
	1.20 - 8.70	sandstone
	8.70 - 9.30	coal
	9.30 - 15.00	sandstone

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	7			
PREVIOUS	/	/		
TO DATE	7			



DRILLING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS RIG: C6 xp2

LEAD DRILLER INITIALS: TP
LEAD DRILLER SIGNED:

DATE: 13/10/25 SHEET: 1 OF 2

EQUIPMENT USED:

BH	DEPTH	STRATA DESCRIPTION
E5	0.00 - 1.20	made ground
	1.20 - 8.50	sandstone
	8.50 - 9.50	coal
	9.50 - 15.00	grey mudstone
E7	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 9.00	soft ground
	9.00 - 11.00	hard strata
G5	0.00 - 1.20	made ground
	1.20 - 8.80	sandstone
	8.80 - 10.40	broken
	10.40 - 13.00	hard strata
G7	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 9.00	soft ground
	9.00 - 11.00	hard strata

BH	DEPTH	STRATA DESCRIPTION
i5	0.00 - 1.20	made ground
	1.20 - 8.00	sandstone
	8.00 - 9.00	soft ground
	9.00 - 11.00	hard strata
i7	0.00 - 1.20	made ground
	1.20 - 8.00	sandstone
	8.00 - 9.00	soft ground
	9.00 - 11.00	hard strata
E2	0.00 - 1.20	made ground
	1.20 - 9.20	sandstone
	9.20 - 10.00	coal
	10.00 - 12.00	grey mudstone
Between E3 and D3		
	0.00 - 1.20	made ground
	1.20 - 9.20	sandstone
	9.20 - 10.00	coal
	10.00 - 12.00	grey mudstone

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY				
PREVIOUS				
TO DATE				



DRILLING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS TP RIG: C6xp2

DATE: 13/10/25 SHEET: 2 OF 2

LEAD DRILLER INITIALS	LEAD DRILLER SIGNED
TP	

EQUIPMENT USED:

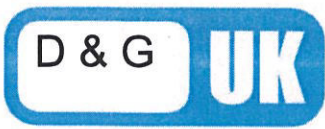
BH	DEPTH	STRATA DESCRIPTION
E9	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 8.00	soft ground
	8.00 - 10.00	hard strata
E11	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 8.00	coal
	8.00 - 9.00	mudstone
E10	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 8.00	coal
	8.00 - 9.00	mudstone
G9	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 9.00	soft ground
	9.00 - 11.00	hard strata

BH	DEPTH	STRATA DESCRIPTION
G11	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 8.00	coal
	8.00 - 9.00	mudstone
i9	0.00 - 1.20	made ground
	1.20 - 7.00	sandstone
	7.00 - 8.00	soft ground
	8.00 - 12.00	flush lost then returned mudstone
K9	0.00 - 1.20	made ground
	1.20 - 8.00	sandstone
	8.00 - 9.00	soft ground
	9.00 - 14.00	hard strata

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	15	170		
PREVIOUS	7	111		
TO DATE	22	281		



DRILLING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS G3 RIG: C6 xp2

LEAD DRILLER INITIALS	LEAD DRILLER SIGNED
TP	

DATE: 14/10/25 SHEET: 1 OF 2

EQUIPMENT USED:

BH	DEPTH	STRATA DESCRIPTION
K5	0.00 - 1.20	made ground
	1.20 - 8.80	sandstone
	8.80 - 9.80	soft ground
	9.80 - 12.00	hard strata
K7	0.00 - 1.20	made ground
	1.20 - 8.80	sandstone
	8.80 - 9.80	coal
	9.80 - 15.00	mudstone
	15.00 - 30.50	brown / grey mudstone
K11	0.00 - 1.20	made ground
	1.20 - 7.50	sandstone
	7.50 - 9.00	soft ground
	9.00 - 12.00	hard strata
K12	0.00 - 1.20	made ground
	1.20 - 8.20	sandstone
	8.20 - 8.80	coal
	8.80 - 12.00	mudstone

BH	DEPTH	STRATA DESCRIPTION
K10	0.00 - 1.20	made ground
	1.20 - 8.20	sandstone
	8.20 - 8.80	coal
	8.80 - 12.00	mudstone
K1	0.00 - 1.20	made ground
	1.20 - 2.50	broken
	2.50 - 3.00	hard strata
	3.00 - 4.50	broken
	4.50 - 6.00	hard strata
K3	0.00 - 1.20	made ground
	1.20 - 8.80	sandstone
	8.80 - 11.50	soft ground
		flush lost then returned
	11.50 - 13.00	mudstone

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY				
PREVIOUS				
TO DATE				



DRILLING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS G3 RIG: C6 xp2

LEAD DRILLER INITIALS	LEAD DRILLER SIGNED
TP	

DATE: 14/10/25 SHEET: 2 OF 2

EQUIPMENT USED:

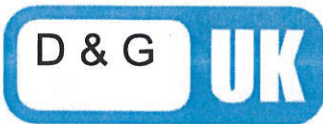
BH	DEPTH	STRATA DESCRIPTION
		incorrect references on plan
03	0.00-3.00	made ground
	3.00-9.00	sandstone
	9.00-11.00	sott
	11.00-13.00	ground hard strata
01	0.00-3.00	made ground
	3.00-10.20	sandstone
	10.20-11.50	coal/sott
	11.50-15.00	mudstone
05	0.00-3.00	made ground
	3.00-9.00	sandstone
	9.00-11.00	sott ground
	11.00-13.00	hard strata
N2	0.00-3.00	made ground
	3.00-4.00	sandstone
	4.00-11.00	sott ground
	11.00-13.00	hard strata

BH	DEPTH	STRATA DESCRIPTION
N4	0.00-3.00	made ground
	3.00-4.00	sandstone
	4.00-11.00	sott
	11.00-13.00	ground hard strata
M1	0.00-3.00	made ground
	3.00-4.00	sandstone
	4.00-11.00	sott
	11.00-13.00	ground hard strata
M3	0.00-3.00	made ground
	3.00-9.00	sandstone
	9.00-11.00	sott
	11.00-13.00	ground hard strata

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	14	188.5		
PREVIOUS	22	281		
TO DATE	36	469.5		



DRILLING LOG SHEET

SITE: Grange Moor

CREW INITIALS: DH RIG: C6 XP2

LEAD DRILLER INITIALS DS	LEAD DRILLER SIGNED
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DATE: 20/10/25 SHEET: 1 OF 1

EQUIPMENT USED: 90mm bit

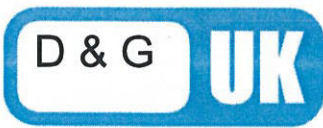
BH	DEPTH	STRATA DESCRIPTION
F2	0.00 - 1.20	made Gravel
	1.20 - 8.80	Sandstone
	8.80 - 9.70	SoSB/Coal
	9.70 - 12.00	mudstone
H2	0.00 - 1.20	made Gravel
	1.20 - 8.90	Sandstone
	8.90 - 9.80	Gravel/Coal
	9.80 - 12.00	mudstone
F4	0.00 - 1.20	made Gravel
	1.20 - 8.80	Sandstone
	8.80 - 9.70	SoSB/Gravel
	9.70 - 12.00	mudstone
H4	0.00 - 1.20	made Gravel
	1.20 - 8.80	Sandstone
	8.80 - 9.80	SoSB/Gravel
	9.80 - 12.00	mudstone
F6	0.00 - 1.20	made Gravel
	1.20 - 7.80	Sandstone
	7.80 - 9.00	broken
	9.00 - 12.00	hard strata

BH	DEPTH	STRATA DESCRIPTION
H6	0.00 - 1.20	made Gravel
	1.20 - 8.00	Sandstone
	8.00 - 9.20	broken
	9.20 - 12.00	hard strata

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	6	72		
PREVIOUS	40	5" 50		
TO DATE	46	583.50		



DRILLING LOG SHEET

SITE: Grange Moor

CREW INITIALS: _____ RIG: CGtp2

DATE: 22-10-25 SHEET: 1 OF 2

EQUIPMENT USED: _____

LEAD DRILLER INITIALS _____ LEAD DRILLER SIGNED _____

BH	DEPTH	STRATA DESCRIPTION
F10	0.00 - 1.10	Made Ground
	1.10 - 7.80	Sandstone
	7.80 - 8.70	Coal
	8.70 - 30.00	Grey/Brown Mudstone Bands
F8	0.00 - 1.20	Made Ground
	1.20 - 7.70	Sandstone
	7.70 - 8.90	Soft Grout
	8.90 - 12.00	Mudstone
H10	0.00 - 1.20	Made Ground
	1.20 - 7.80	Sandstone
	7.80 - 8.70	Coal
	8.70 - 12.00	Mudstone
H8	0.00 - 1.20	Made Ground
	1.20 - 7.90	Sandstone
	7.90 - 8.80	Coal
	8.80 - 12.00	Mudstone
D10	0.00 - 1.00	Made Ground
	1.00 - 7.70	Sandstone
	7.70 - 8.60	Coal
	8.60 - 12.00	Mudstone
D9	0.00 - 1.00	Made Ground
	1.00 - 7.60	Sandstone
	7.60 - 8.50	Coal

BH	DEPTH	STRATA DESCRIPTION
	8.50 - 12.00	Mudstone
G10	0.00 - 1.00	Made Ground
	1.00 - 7.60	Sandstone
	7.60 - 8.60	Coal
	8.60 - 12.00	Mudstone
H9	0.00 - 1.20	Made Ground
	1.20 - 7.60	Sandstone
	7.60 - 8.80	Soft Grout
	8.80 - 12.00	Hard Strata
E8	0.00 - 1.10	Made Ground
	1.10 - 7.60	Sandstone
	7.60 - 8.60	Soft Grout
	8.60 - 12.00	Hard Strata
G8	0.00 - 1.60	Made Ground
	1.60 - 7.80	Sandstone
	7.80 - 8.60	Coal
	8.60 - 12.00	Mudstone
D7	0.00 - 1.20	Made Ground
	1.20 - 7.60	Sandstone
	7.60 - 8.60	Coal
	8.60 - 12.00	Mudstone

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	12	162		
PREVIOUS	46	583.50		
TO DATE	58	745.5		



DRILLING LOG SHEET

SITE: Grange Moor

CREW INITIALS: _____ RIG: C6+p2

LEAD DRILLER INITIALS _____ LEAD DRILLER SIGNED _____

DATE: 23-10-25 SHEET: 1 OF 1

EQUIPMENT USED: _____

BH	DEPTH	STRATA DESCRIPTION
F9	0.00 - 1.00	Made Ground
	1.00 - 7.80	Sandstone
	7.80 - 8.80	Coal
	8.80 - 12.00	Mudstone
H7	0.00 - 1.20	Made Ground
	1.20 - 7.80	Sandstone
	7.80 - 8.70	Coal
	8.70 - 12.00	Mudstone
EG	0.00 - 1.10	Made Ground
	1.10 - 7.80	Sandstone
	7.80 - 9.00	Grout
	9.00 - 12.00	Mudstone
G6	0.00 - 1.10	Made Ground
	1.10 - 7.90	Sandstone
	7.90 - 8.90	Coal
	8.90 - 12.00	Mudstone
I6	0.00 - 1.20	Made Ground
	1.20 - 7.80	Sandstone
	7.80 - 8.60	Coal
	8.60 - 12.00	Mudstone
S6	0.00 - 1.20	Made Ground
	1.20 - 7.70	Sandstone
	7.70 - 8.90	Grout
	8.90 - 12.00	Mudstone

BH	DEPTH	STRATA DESCRIPTION
FS	0.00 - 1.20	Made Ground
	1.20 - 7.90	Sandstone
	7.90 - 8.70	Coal
	8.70 - 12.00	Mudstone
HS	0.00 - 1.10	Made Ground
	1.10 - 7.90	Sandstone
	7.90 - 8.70	Coal
	8.70 - 12.00	Mudstone
SS	0.00 - 1.30	Made Ground
	1.30 - 7.80	Sandstone
	7.80 - 8.60	Coal
	8.60 - 12.00	Mudstone
I4	0.00 - 1.20	Made Ground
	1.20 - 7.80	Sandstone
	7.80 - 8.90	Grout
	8.90 - 12.00	Mudstone

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	10	120		
PREVIOUS	58	745.5		
TO DATE	68	865.5		



DRILLING LOG SHEET

SITE: Grange Moor

CREW INITIALS: RIG: C6xp2

LEAD DRILLER INITIALS LEAD DRILLER SIGNED

DATE: 24-10-25 SHEET: 1 OF 1

EQUIPMENT USED:

BH	DEPTH	STRATA DESCRIPTION
K11	0.00 - 1.20	Made Ground
	1.20 - 7.60	Sandstone
	7.60 - 8.60	Coal
	8.60 - 12.00	Mudstone
M11	0.00 - 1.00	Made Ground
	1.00 - 7.80	Sandstone
	7.80 - 8.60	Coal
	8.60 - 12.00	Mudstone
N11	0.00 - 1.00	Made Ground
	1.00 - 7.90	Sandstone
	7.90 - 8.70	Coal
	8.70 - 12.00	Mudstone
O11	0.00 - 1.00	Made Ground
	1.00 - 7.80	Sandstone
	7.80 - 8.80	Coal
	8.80 - 12.00	Mudstone
M10	0.00 - 1.20	Made Ground
	1.20 - 7.80	Sandstone
	7.80 - 8.60	Coal
	8.60 - 12.00	Mudstone
N9	0.00 - 1.10	Made Ground
	1.10 - 7.70	Sandstone
	7.70 - 9.10	Grout
	9.10 - 12.00	Mudstone

BH	DEPTH	STRATA DESCRIPTION
NS	0.00 - 1.10	Made Ground
	1.10 - 8.00	Sandstone
	8.00 - 8.90	Coal
	8.90 - 12.00	Mudstone
M4	0.00 - 1.20	Made Ground
	1.20 - 8.20	Sandstone
	8.20 - 9.10	Coal
	9.10 - 12.00	Mudstone
O4	0.00 - 1.20	Made Ground
	1.20 - 8.10	Sandstone
	8.10 - 9.00	Coal
	9.00 - 12.00	Mudstone
N3	0.00 - 1.30	Made Ground
	1.30 - 8.00	Sandstone
	8.00 - 9.30	Grout
	9.30 - 12.00	Mudstone
M2	0.00 - 1.20	Made Ground
	1.20 - 8.30	Sandstone
	8.30 - 9.30	Coal
	9.30 - 12.00	Mudstone
O2	0.00 - 1.40	Made Ground
	1.40 - 8.40	Sandstone
	8.40 - 9.40	Coal
	9.40 - 12.00	Mudstone

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	12	144		
PREVIOUS	68	265.5		
TO DATE	80	1009.5		



DRILLING LOG SHEET

SITE: Grange Moor

CREW INITIALS: _____ RIG: C6xp2

LEAD DRILLER INITIALS _____ LEAD DRILLER SIGNED _____

DATE: 29-10-25 SHEET: 1 OF 1

EQUIPMENT USED: _____

BH	DEPTH	STRATA DESCRIPTION
H3	0.00 - 1.40	Made Ground
	1.40 - 8.90	Sandstone
	8.90 - 9.90	Coal
	9.90 - 30.00	Grey/Brown mudstone with Sandstone Bands
G4	0.00 - 1.60	Made Ground
	1.60 - 8.60	Sandstone
	8.60 - 9.50	Coal
	9.50 - 30.00	Grey/Brown mudstone with Sandstone Bands
H12	0.00 - 1.20	Made Ground
	1.20 - 7.60	Sandstone
	7.60 - 8.60	Coal
	8.60 - 30.00	Grey/Brown mudstone with Sandstone Bands
M/N 2/3	0.00 - 1.50	Made Ground
	1.50 - 8.40	Sandstone
	8.40 - 9.40	Coal
	9.40 - 30.00	Grey/Brown mudstone with Sandstone Bands

BH	DEPTH	STRATA DESCRIPTION
N/O 4/5	0.00 - 1.30	Made Ground
	1.30 - 8.90	Sandstone
	8.90 - 9.80	Coal
	9.80 - 30.00	Grey/Brown mudstone with Sandstone Bands
N/O/11	0.00 - 1.00	Made Ground
	1.00 - 7.80	Sandstone
	7.80 - 8.60	Coal
	8.60 - 30.00	Grey/Brown mudstone with Sandstone Bands

BH	CASING DIA	CASING DEPTH

GAS READING	

TOTALS	BH's	DRILL	CASE	CORE
TODAY	<u>6</u>	<u>180</u>		
PREVIOUS	<u>88</u>	<u>1237.5</u>		
TO DATE	<u>94</u>	<u>1417.5</u>		



GROUTING LOG SHEET

Delivery log

SITE: Grange moor

CREW INITIALS: DS G3 TP

DATE: 9/10/25 SHEET: 1 OF 1

LEAD GROUTER INITIALS	LEAD GROUTER SIGNED

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

	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A										P.F.A			
DELIVERED TODAY	6	16													
DELIVERED PREVIOUS	/	/													
DELIVERED TOTAL	6	16													
TOTAL USED	/	/													
STOCK ON SITE	6	16													

DELIVERY TICKET DETAILS

6T cement from previous job

16T PFA from previous job

SLUMP TEST
NO / YES...
mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES
QTY

TODAY TOTAL	/	/	/		
PREVIOUS TOTAL	/	/	/		
TO DATE TOTAL	/	/	/		



GROUTING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS

LEAD GROUTER INITIALS TP	LEAD GROUTER SIGNED
------------------------------------	---------------------

DATE: 15/10/25 SHEET: 1 OF 1

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A	SAND									P.F.A	SAND		
DELIVERED TODAY	/	/				E9		✓		2.2	0.2		2.0		
DELIVERED PREVIOUS	6	16				G9		✓		2.2	0.2		2.0		
DELIVERED TOTAL	6	16				i9	✓			0.22	0.02		0.20		
TOTAL USED	0.89	8.9				K9	✓			0.22	0.01		0.10		
STOCK ON SITE	5.11	7.1				K10	✓			0.11	0.01		0.10		
DELIVERY TICKET DETAILS						K11	✓			0.11	0.01		0.10		
						E10	✓			0.11	0.01		0.10		
						E11	✓			0.11	0.01		0.10		
						E7			✓	2.2	0.2		2.0		
						G11	✓			0.11	0.01		0.10		
						G7			✓	2.2	0.2		2.0		

SLUMP TEST
NO / YES ✓
300 mm

BLEED TEST
NO / YES ✓
3 %

CUBE SAMPLES
NO / YES ✓
QTY 4

TODAY TOTAL	9.79	8.9	
PREVIOUS TOTAL	/	/	/
TO DATE TOTAL	9.79	0.89	8.9



GROUTING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS

LEAD GROUTER INITIALS: TP

LEAD GROUTER SIGNED: _____

DATE: 16/10/25 SHEET: 1 OF 1

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A										P.F.A			
DELIVERED TODAY	✓	38				E9		✓		8.8	0.8	8.0			
DELIVERED PREVIOUS	6	16				G9		✓		8.8	0.8	8.0			
DELIVERED TOTAL	6	54													
TOTAL USED	2	24													
STOCK ON SITE	3	29													
DELIVERY TICKET DETAILS															
<p>pta 128391 19.2t 128369 19.5t</p>															

SLUMP TEST

NO / YES...

mm

BLEED TEST

NO / YES...

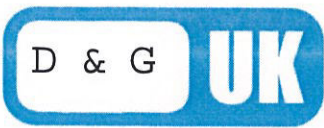
%

CUBE SAMPLES

NO / YES

QTY

TODAY TOTAL	17	1	16
	.60	.60	
PREVIOUS TOTAL	9	0	8.9
	.79	.89	
TO DATE TOTAL	27	2	24
	.39	.49	.90



GROUTING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS DH GJ

LEAD GROUTER INITIALS	LEAD GROUTER SIGNED

DATE: 17/10/25 SHEET: 2 OF 2

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT		PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A	SAND								P.F.A	SAND		
DELIVERED TODAY					ES	✓			0.11	0.01	0.10			
DELIVERED PREVIOUS					GS	✓			0.11	0.01	0.10			
DELIVERED TOTAL					G7	✓			0.11	0.01	0.10			
TOTAL USED					i7	✓			0.33	0.03	0.30			
STOCK ON SITE					K7	✓			0.11	0.01	0.10			
DELIVERY TICKET DETAILS					G9		✓		5.5	0.5	5.0			
					E9	✓			5.5	0.5	5.0			

SLUMP TEST
NO / YES...
mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES
QTY

TODAY TOTAL	18.70	1.70	17
PREVIOUS TOTAL	27.39	2.49	24.90
TO DATE TOTAL	46.09	4.19	41.90



GROUTING LOG SHEET

SITE: Grange moor

CREW INITIALS: DS DH GJ

LEAD GROUTER INITIALS	LEAD GROUTER SIGNED
<u>DS</u>	

DATE: 17/10/25 SHEET: 1 OF 2

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A										P.F.A			
DELIVERED TODAY	<u>/</u>	<u>19</u>	<u>3</u>			<u>01</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
DELIVERED PREVIOUS	<u>6</u>	<u>54</u>	<u>.70</u>			<u>N2</u>	<u>✓</u>			<u>0.33</u>	<u>0.03</u>	<u>0.30</u>			
DELIVERED TOTAL	<u>6</u>	<u>74</u>				<u>03</u>	<u>✓</u>			<u>1.1</u>	<u>0.1</u>	<u>1.0</u>			
TOTAL USED	<u>4</u>	<u>41</u>	<u>.90</u>			<u>N4</u>	<u>✓</u>			<u>1.1</u>	<u>0.1</u>	<u>1.0</u>			
STOCK ON SITE	<u>1</u>	<u>32</u>	<u>.10</u>			<u>05</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
DELIVERY TICKET DETAILS <u>pta 128409</u> <u>19.3T</u>						<u>M5</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>M3</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>M1</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>K3</u>	<u>✓</u>			<u>0.33</u>	<u>0.03</u>	<u>0.30</u>			
						<u>i3</u>	<u>✓</u>			<u>0.33</u>	<u>0.03</u>	<u>0.30</u>			
						<u>i5</u>	<u>✓</u>			<u>1.21</u>	<u>0.11</u>	<u>1.1</u>			
						<u>i1</u>	<u>✓</u>			<u>0.22</u>	<u>0.02</u>	<u>0.20</u>			
						<u>G1</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>E1</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>E1/E3</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>E3/D3</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			
						<u>G3</u>	<u>✓</u>			<u>0.11</u>	<u>0.01</u>	<u>0.10</u>			

SLUMP TEST
NO / YES...
mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES...
QTY

TODAY TOTAL					
PREVIOUS TOTAL					
TO DATE TOTAL					



GROUTING LOG SHEET

SITE: Grange Moor

CREW INITIALS: DS

LEAD GROUTER INITIALS DM	LEAD GROUTER SIGNED
-----------------------------	---------------------

DATE: 21/10/25 SHEET: 1 OF 1

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT		PEA GRAVEL	BH REF	FULL	NOT FULL	PSI	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A	SAND								P.F.A	SAND		
DELIVERED TODAY	5.6	/			M9	/			2.2	0.2	2.0			
DELIVERED PREVIOUS	6	74			09	/			0.22	0.02	0.2			
DELIVERED TOTAL	11.6	74			N10	/			0.22	0.02	0.2			
TOTAL USED	5.49	54.9			F2	/			0.22	0.02	0.2			
STOCK ON SITE	6.1	19.1			H2	/			0.11	0.01	0.1			
DELIVERY TICKET DETAILS Jewsons - 5.6 delivered 20/10/25					F4	/			0.11	0.01	0.1			
					H4	/			0.22	0.02	0.2			
					F6	/			2.2	0.2	2.0			
					H6	/			2.2	0.2	2.0			
					G9	/			6.6	0.6	6.0			

SLUMP TEST
NO / YES...
390 mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES...
QTY 4

TODAY TOTAL	14.3	1.3	13
PREVIOUS TOTAL	46.09	4.19	41.90
TO DATE TOTAL	60.39	5.49	54.9



GROUTING LOG SHEET

SITE: GRANGE MOOR

CREW INITIALS: DS

LEAD GROUTER INITIALS DM	LEAD GROUTER SIGNED
-----------------------------	---------------------

DATE: 21/10/25 SHEET: 1 OF 1*

GROUTING METHOD USED: BAGGED GROUT BULK GROUT

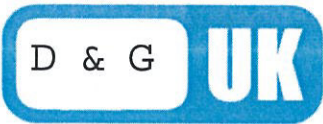
	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A										P.F.A			
DELIVERED TODAY	0	0				K5	/			0.44	0.04	0.4			
DELIVERED PREVIOUS	11.6	74				K12	/			0.11	0.01	0.1			
DELIVERED TOTAL	11.6	74													
TOTAL USED	5.54	55.4				missed off logs from 15/10/25									
STOCK ON SITE	6.06	18.6													
DELIVERY TICKET DETAILS															

SLUMP TEST
NO / YES...
mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES
QTY

TODAY TOTAL	0.55	0.05	0.5		
PREVIOUS TOTAL	60.39	5.49	54.9		
TO DATE TOTAL	60.94	5.54	55.4		



GROUTING LOG SHEET

SITE: Grange Moor

CREW INITIALS: _____

LEAD GROUTER INITIALS: _____ LEAD GROUTER SIGNED: _____

DATE: 24-10-25 SHEET: 1 OF 2

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

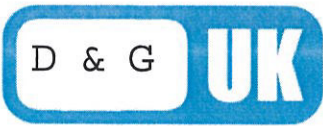
	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A										P.F.A			
DELIVERED TODAY						D7	✓			0.11	0.01	0.1			
DELIVERED PREVIOUS	11.6	74				D9	✓			0.11	0.01	0.1			
DELIVERED TOTAL	11.6	74				D10	✓			0.11	0.01	0.1			
TOTAL USED	5.94	59.4				FS	✓			0.11	0.01	0.1			
STOCK ON SITE	5.66	14.6				F9	✓			0.11	0.01	0.1			
DELIVERY TICKET DETAILS						F10	✓			0.22	0.02	0.2			
						G6	✓			0.11	0.01	0.1			
						G8	✓			0.33	0.03	0.3			
						G10	✓			0.11	0.01	0.1			
						HS	✓			0.11	0.01	0.1			
						H7	✓			0.11	0.01	0.1			
						H8	✓			0.11	0.01	0.1			
						H10	✓			0.11	0.01	0.1			
						I6	✓			0.11	0.01	0.1			
						SS	✓			0.11	0.01	0.1			
						K11	✓			0.11	0.01	0.1			
						M2	✓			0.11	0.01	0.1			

SLUMP TEST
NO / YES...
mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES
QTY

TODAY TOTAL	4.4	0.4	4		
PREVIOUS TOTAL	60.94	5.54	55.4		
TO DATE TOTAL	65.34	5.94	59.4		



GROUTING LOG SHEET

SITE: Grange Moor

CREW INITIALS:

LEAD GROUTER INITIALS	LEAD GROUTER SIGNED

DATE: <u>24-10-25</u>	SHEET: <u>2</u> OF <u>2</u>
-----------------------	-----------------------------

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

	CEMENT	BAG GROUT		PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT		SAND	PEA GRAVEL
		P.F.A	SAND								P.F.A	SAND		
DELIVERED TODAY					M4	✓			0.11	0.01	0.1			
DELIVERED PREVIOUS					M10	✓			0.11	0.01	0.1			
DELIVERED TOTAL					M11	✓			0.11	0.01	0.1			
TOTAL USED					O20	✓			0.11	0.01	0.1			
STOCK ON SITE					O4	✓			0.11	0.01	0.1			
DELIVERY TICKET DETAILS					O11	✓			0.11	0.01	0.1			
					N11	✓			0.11	0.01	0.1			
					NS	✓			0.11	0.01	0.1			
					E6	✓			0.11	0.01	0.1			
					F7	✓			0.11	0.01	0.1			
					I4	✓			0.11	0.01	0.1			
					S6	✓			0.11	0.01	0.1			
					N3	✓			0.11	0.01	0.1			
					N9	✓			0.11	0.01	0.1			
					E8	✓			0.11	0.01	0.1			
					F8	✓			0.11	0.01	0.1			
					H9	✓			0.44	0.04	0.4			

SLUMP TEST
NO / YES...
mm

BLEED TEST
NO / YES...
%

CUBE SAMPLES
NO / YES
QTY

TODAY TOTAL	4.4	0.4	4		
PREVIOUS TOTAL	60.94	5.54	55.4		
TO DATE TOTAL	65.34	5.94	59.4		



GROUTING LOG SHEET

SITE: Grange Moor

CREW INITIALS:

LEAD GROUTER INITIALS: _____ LEAD GROUTER SIGNED: _____

DATE: 30-10-25 SHEET: 1 OF 1

GROUTING METHOD USED: _____ BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT		SAND	PEA GRAVEL	BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)		SAND	PEA GRAVEL
		P.F.A								CEMENT	P.F.A		
DELIVERED TODAY						1	✓			0.55	0.05	0.5	
DELIVERED PREVIOUS	11.6	74				2	✓			1.65	0.15	1.5	
DELIVERED TOTAL	11.6	74				3	✓			0.11	0.01	0.1	
TOTAL USED	6.34	63.4				4	✓			0.11	0.01	0.1	
STOCK ON SITE	5.26	10.6				5	✓			0.66	0.06	0.6	
DELIVERY TICKET DETAILS						6	✓			0.11	0.01	0.1	
						7	✓			0.11	0.01	0.1	
						8	✓			0.11	0.01	0.1	
						9	✓			0.11	0.01	0.1	
						10	✓			0.11	0.01	0.1	
						H3	✓			0.11	0.01	0.1	
						G4	✓			0.11	0.01	0.1	
						H12	✓			0.11	0.01	0.1	
						N/M 2/3	✓			0.11	0.01	0.1	
						N/O 4/5	✓			0.11	0.01	0.1	
						N/O 11	✓			0.11	0.01	0.1	

SLUMP TEST
NO / YES...
360 mm

BLEED TEST
NO / YES...
4 %

CUBE SAMPLES
NO / YES...
QTY 4

TODAY TOTAL	4.4	0.4	4
PREVIOUS TOTAL	65.34	5.94	59.4
TO DATE TOTAL	69.74	6.34	63.4



APPENDIX 5 - Strength Testing Results



SOCOTEC UK Limited
 Unit E Broadheath Network Centre
 Atlantic Street, Broadheath
 Altrincham
 WA14 5EW, United Kingdom
 Telephone: 01925 286220

Concrete Test Report

TEST REPORT



Project Details

Client: DEMOLITION AND GEOTECHNICAL LIMITED
Client Address: GRANBY HOUSE
 HIGH STREET
 BAWTRY
 DONCASTER
 DN10 6BF
Project: P251402 - D&G Limited - Granby House, Bawtry, Doncaster

Report Details

Report No.: CONC:NOR25-12218-C0001
Report Date: 19/11/2025
Issue No.: 1
Recipients: Thomas Perks

Field Details and Results

Location in Works: - **Mix:** G10
Fresh Concrete Sampling performed by third party and not covered under this laboratory's accreditation
Sample ID: NOR25-12218-C0001 **Client Sample ID:** NOR072152

Compressive Strength of test specimens (100 mm Cube)

Making and initial curing of specimens for strength tests performed by third party and not covered under this laboratory's accreditation

Date Made: 15/10/2025 **Date and Time Received:** 12/11/2025 15:32

Laboratory Test Methods: BS EN 12390-7 - 2019, BS EN 12390-1 - 2021, BS EN 12390-3 - 2019

Specimen ID	Client ID	Age at Test (Days)	Test Date	Width/Depth/Height (mm)	Density (kg/m ³)	Failure Load (kN)	Compressive Strength (N/mm ²)	Specified Strength (N/mm ²)
016639\A	GM1	35	19/11/2025	100/100/100	1510	22.8	2.3	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016639\B	GM2	35	19/11/2025	100/100/100	1510	25.2	2.5	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016639\C	GM3	35	19/11/2025	100/100/100	1490	22.7	2.3	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016639\D	GM4	35	19/11/2025	100/100/100	1510	24.8	2.5	
Mass Determination: As Received, Specimen Assessment: Polymould.								

Notes

The following apply unless otherwise stated in specimen notes:

Laboratory curing tank temperature range (°C): 18 to 22.	BS EN 12390-7 - 2019
Specimen appearance as received satisfactory.	Hardened concrete density test carried out in saturated condition.
Specimens transported within 16 hours of making are classified as deviating from the standard requirements.	Volume determined by measurement or designated size. Any fins removed by abrasive stone.
	BS EN 12390-3 - 2019
	Specimen failure normal, specimen appearance normal.

Signed: — **Paul Haddock - Project Manager**
 For and on behalf of SOCOTEC UK Limited
 Certified that testing was carried out in accordance with the test methods identified herein. This test report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.
Signed Date: 19/11/2025



SOCOTEC UK Limited
 Unit E Broadheath Network Centre
 Atlantic Street, Broadheath
 Altrincham
 WA14 5EW, United Kingdom
 Telephone: 01925 286220

Concrete Test Report

TEST REPORT



Project Details

Client: DEMOLITION AND GEOTECHNICAL LIMITED
Client Address: GRANBY HOUSE
 HIGH STREET
 BAWTRY
 DONCASTER
 DN10 6BF
Project: P251402 - D&G Limited - Granby House, Bawtry, Doncaster

Report Details

Report No.: CONC:NOR25-12218-C0002
Report Date: 19/11/2025
Issue No.: 1
Recipients: Thomas Perks

Field Details and Results

Location in Works: - **Mix:** G10
Fresh Concrete Sampling performed by third party and not covered under this laboratory's accreditation
Sample ID: NOR25-12218-C0002 **Client Sample ID:** NOR072153

Compressive Strength of test specimens (100 mm Cube)

Making and initial curing of specimens for strength tests performed by third party and not covered under this laboratory's accreditation

Date Made: 16/10/2025 **Date and Time Received:** 13/11/2025 15:32

Laboratory Test Methods: BS EN 12390-7 - 2019, BS EN 12390-1 - 2021, BS EN 12390-3 - 2019

Specimen ID	Client ID	Age at Test (Days)	Test Date	Width/Depth/Height (mm)	Density (kg/m ³)	Failure Load (kN)	Compressive Strength (N/mm ²)	Specified Strength (N/mm ²)
016640\A	GM5	34	19/11/2025	100/100/100	1520	13.5	1.4	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016640\B	GM6	34	19/11/2025	100/100/100	1550	14.1	1.4	
016640\C	GM7	34	19/11/2025	100/100/100	1530	14.0	1.4	
Mass Determination: As Received.								
016640\D	GM8	34	19/11/2025	100/100/100	1570	13.5	1.4	

Notes

The following apply unless otherwise stated in specimen notes:

Laboratory curing tank temperature range (°C): 18 to 22.	BS EN 12390-7 - 2019
Specimen appearance as received satisfactory.	Hardened concrete density test carried out in saturated condition.
Specimens transported within 16 hours of making are classified as deviating from the standard requirements.	Volume determined by measurement or designated size. Any fins removed by abrasive stone.
	BS EN 12390-3 - 2019
	Specimen failure normal, specimen appearance normal.

Signed: Paul Haddock - Project Manager
 For and on behalf of SOCOTEC UK Limited
 Certified that testing was carried out in accordance with the test methods identified herein. This test report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Signed Date: 19/11/2025



SOCOTEC UK Limited
 Unit E Broadheath Network Centre
 Atlantic Street, Broadheath
 Altrincham
 WA14 5EW, United Kingdom
 Telephone: 01925 286220

Concrete Test Report

TEST REPORT



Project Details

Client: DEMOLITION AND GEOTECHNICAL LIMITED
Client Address: GRANBY HOUSE
 HIGH STREET
 BAWTRY
 DONCASTER
 DN10 6BF
Project: P251402 - D&G Limited - Granby House, Bawtry, Doncaster

Report Details

Report No.: CONC:NOR25-12218-C0003
Report Date: 19/11/2025
Issue No.: 1
Recipients: Thomas Perks

Field Details and Results

Location in Works: - **Mix:** G10
Fresh Concrete Sampling performed by third party and not covered under this laboratory's accreditation
Sample ID: NOR25-12218-C0003 **Client Sample ID:** NOR072154

Compressive Strength of test specimens (100 mm Cube)

Making and initial curing of specimens for strength tests performed by third party and not covered under this laboratory's accreditation

Date Made: 21/10/2025 **Date and Time Received:** 13/11/2025 15:33

Laboratory Test Methods: BS EN 12390-7 - 2019, BS EN 12390-1 - 2021, BS EN 12390-3 - 2019

Specimen ID	Client ID	Age at Test (Days)	Test Date	Width/Depth/Height (mm)	Density (kg/m ³)	Failure Load (kN)	Compressive Strength (N/mm ²)	Specified Strength (N/mm ²)
016641\A	GM9	29	19/11/2025	100/100/100	1420	10.0	1.0	
016641\B	GM10	29	19/11/2025	100/100/100	1430	9.5	1.0	
016641\C	GM11	29	19/11/2025	100/100/100	1470	9.8	1.0	
016641\D	GM12	29	19/11/2025	100/100/100	1430	9.8	1.0	

Mass Determination: As Received.

Notes

The following apply unless otherwise stated in specimen notes:

Laboratory curing tank temperature range (°C): 18 to 22.	BS EN 12390-7 - 2019
Specimen appearance as received satisfactory.	Hardened concrete density test carried out in saturated condition.
Specimens transported within 16 hours of making are classified as deviating from the standard requirements.	Volume determined by measurement or designated size. Any fins removed by abrasive stone.
	BS EN 12390-3 - 2019
	Specimen failure normal, specimen appearance normal.

Signed: **Paul Haddock - Project Manager**
 For and on behalf of SOCOTEC UK Limited
 Certified that testing was carried out in accordance with the test methods identified herein. This test report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Signed Date: 19/11/2025



SOCOTEC UK Limited
 Unit E Broadheath Network Centre
 Atlantic Street, Broadheath
 Altrincham
 WA14 5EW, United Kingdom
 Telephone: 01925 286220

Concrete Test Report

TEST REPORT



Project Details

Client: DEMOLITION AND GEOTECHNICAL LIMITED
Client Address: GRANBY HOUSE
 HIGH STREET
 BAWTRY
 DONCASTER
 DN10 6BF
Project: P251402 - D&G Limited - Granby House, Bawtry, Doncaster

Report Details

Report No.: CONC:NOR25-12218-C0004
Report Date: 27/11/2025
Issue No.: 2
Recipients: Thomas Perks

Field Details and Results

Location in Works: - **Mix:** G10
Fresh Concrete Sampling performed by third party and not covered under this laboratory's accreditation
Sample ID: NOR25-12218-C0004 **Client Sample ID:** NOR072155

Compressive Strength of test specimens (100 mm Cube)

Making and initial curing of specimens for strength tests performed by third party and not covered under this laboratory's accreditation

Date Made: 30/10/2025 **Date and Time Received:** 13/11/2025 15:34

Laboratory Test Methods: BS EN 12390-7 - 2019, BS EN 12390-1 - 2021, BS EN 12390-3 - 2019

Specimen ID	Client ID	Age at Test (Days)	Test Date	Width/Depth/Height (mm)	Density (kg/m ³)	Failure Load (kN)	Compressive Strength (N/mm ²)	Specified Strength (N/mm ²)
016642\A	GM13	20	19/11/2025	100/100/100	1530	16.7	1.7	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016642\B	GM14	20	19/11/2025	100/100/100	1550	16.9	1.7	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016642\C	GM15	28	27/11/2025	100/100/100	1510	24.8	2.5	
Mass Determination: As Received, Specimen Assessment: Polymould.								
016642\D	GM16	28	27/11/2025	100/100/100	1530	24.1	2.4	
Mass Determination: As Received, Specimen Assessment: Polymould.								

Notes

The following apply unless otherwise stated in specimen notes:

Laboratory curing tank temperature range (°C): 18 to 22.	BS EN 12390-7 - 2019
Specimen appearance as received satisfactory.	Hardened concrete density test carried out in saturated condition.
Specimens transported within 16 hours of making are classified as deviating from the standard requirements.	Volume determined by measurement or designated size. Any fins removed by abrasive stone.
	BS EN 12390-3 - 2019
	Specimen failure normal, specimen appearance normal.

Signed: Paul Haddock - Project Manager
 For and on behalf of SOCOTEC UK Limited
 Certified that testing was carried out in accordance with the test methods identified herein. This test report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.
Signed Date: 27/11/2025



APPENDIX 6 - Limitations



Limitations

This contract was completed by Groundtech Consulting on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with due skill and care, taking into consideration the project brief provided, project objectives, agreed scope of works, prevailing site conditions and budget allocation.

Other than that defined in the paragraph above, Groundtech Consulting provides no other accountability or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted industry practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Groundtech Consulting. A third party who relies on this report, does so at their own and sole risk and no liability to such parties is provided by Groundtech Consulting.

It is the understanding of Groundtech Consulting that this report is to be used for the intended purpose as set out in the introduction. The purpose was instrumental in determining the scope and level of the services provided. Should the purpose of the report or the proposed end use of the site change, this report will no longer be directly applicable, and its validity readdressed. No reliance upon the report in the revised situation should be assumed by the client without the permission of Groundtech Consulting.

The report was written in 2020, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change and should be investigated if there is any significant delay in acting on the findings of this report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions in this report should not be relied upon in the future without the written confirmation from Groundtech Consulting that it is safe to do so.

The observations and conclusions outlined in this report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting.

Groundtech Consulting are not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The services provided are based upon Groundtech Consulting observations of existing physical conditions at the site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and Groundtech Consulting assume the information to be correct.

No responsibility can be accepted for errors for third party information presented in this report. Groundtech Consulting were not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Groundtech Consulting are not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable due to its heterogeneous



properties and as investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. Geo-Environmental testing was carried out for a limited number of parameters [as stipulated in the contract] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawings provided in this report are not meant to be an accurate base plan, but are preliminary and used to present the general relative locations of features on, and surrounding, the site.

