

BRICKGROUND, EDENFIELD ROAD - DRILLING & GROUTING COMPLETION REPORT

GSL3232R02

VERSION 1

15 MAY 2025

ISSUE

Prepared for:

Prepared by: C McShane

DOCUMENT CONTROL

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Date of Issue:	15/05/2025

This report has been prepared by GroundSolve Ltd with all reasonable care and diligence, within the best practice and guidance current at the time of issue within the proposed redline boundary and proposed Site end use as presented by the Client.

This report is confidential to the Client and GroundSolve Ltd accepts no responsibility whatsoever to third parties to whom this report is presented.

Version No.	Description of Issue / Revision	Date of Issue	Author	Reviewed & Approved By
1	ISSUE	15/05/2025	C McShane	Stefan Imiolczyk
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1 INTRODUCTION

GroundSolve Ltd (GSL) was commissioned by Pennine Geotechnical Services Ltd on behalf of their client Jackson Jackson & Sons Limited ("the Client") to undertake a coal mining remediation drilling and grouting completion report for a proposed development at Brickground (the "site").

The proposed development comprises of a low-rise residential dwelling with associated garden and utility infrastructure in the centre of the current vacant plot of land.

A Coal Mining Risk Assessment and a separate Phase 2 Intrusive Report was carried out by E3P for the proposed development. The conclusions were that there is a potential for mining related instability and that remedial measures are required.

GroundSolve were appointed by Pennine Geotechnical Services Ltd to act as their agent and to assist with obtaining the relevant Mining Remediation Authority Permit and to produce the closure report to be submitted to the Mining Remediation Authority, by compiling the drilling and grouting records provided.

This report therefore presents the findings of the drilling and grouting, the Mining Remediation Permit Closure Form, and will be submitted to the Mining Remediation Authority to discharge the permit conditions.

1.1 Limitations

This report has been prepared for the sole use of Pennine Geotechnical Services Ltd. No other third party may rely upon or reproduce the contents of this report without the written approval of GroundSolve Ltd. If any unauthorised third party comes into possession of this report, they rely on it entirely at their own risk.

2 THE SITE

2.1 Site Location and Description

The site is located to the north of Edenfield Road, Norden, Rochdale, OL12 7TN as shown on **3232-01-01**.

The site comprises a vacant, overgrown rectangular parcel of land. The southern boundary of the site is formed of mature trees and hedgerows. Boundaries are demarcated by dry stone walls.

2.2 Geology

GroundSolve have reviewed the BGS Online Mapping and 1:50,000 Sheet Mapping (Sheet 76)

Superficial deposits are mapped as Superficial deposits are mapped as Till, Devensian overlying bedrock comprises Pennine Lower Coal Measures Formation.

The Bassy coal seam (B) is shown to crop to the west of the site, striking northeast-southwest. It is possible that the seam extends within the site boundary, beneath the western sector of the site. The Lower Mountain coal seam (LM) is also shown to crop to the south of the site, dipping away from the site.

3 PROPOSED DEVELOPMENTS

The proposed development comprises of a low-rise residential dwelling with associated garden and utility infrastructure in the centre of the current vacant plot of land. The proposed development layout is presented in Figure 1 below:

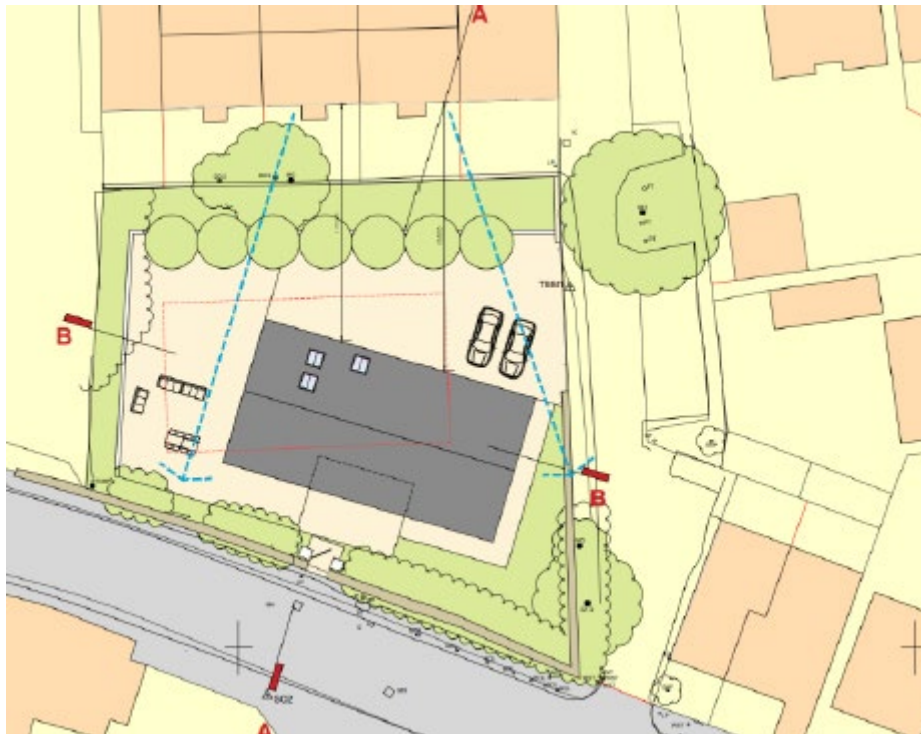


Figure 1 –Proposed Development

4 PREVIOUS INVESTIGATIONS

The following reports have been produced for this site and should be read in conjunction with this assessment (in date order):

- 16-702-R1-1 – E3P – Coal Mining Risk Assessment – April 2023
- 16-702-L1-1- E3P –Mine Shaft Intrusive Investigation – April 2024
- 16-702-L3-01 – Intrusive Coal Mining Risk Assessment – September 2024
- 16-702-R3 – Performance Specification for Consolidation of Abandoned Mine Workings – November 2024

Evidence of shallow worked coal seams have been identified beneath the site between depths of 8.70m and 10.0m and it was concluded within the previous report that there is a risk to the proposed development and remedial measures are required.

Groundsolve Ltd (GSL) were subsequently appointed to provide a drill and grouting specification.

This report therefore contains a grouting scheme to treat and stabilise the site in order to allow its safe development.

5 THE WORKS

5.1 Design & Tender

A specification for the grouting works was prepared by GroundSolve Ltd (GSL3232_R01- Drill and Grout Specification), with the grouting itself carried out by Pennine Geotechnical Services Ltd.

The grouting borehole locations were as presented on E3P Drawing No.: 16-702-024 Rev A, included within Appendix A.

Grouting was to be carried out using cement, which was to be tremmied to the base of the drill hole to ensure any groundwater was displaced. A “Banjo T Pipe” was then placed on top of the casing to allow the grout to be pressurised into the workings.

5.2 Mining Remediation Authority Treatment Permit

Prior to the works, GroundSolve obtained a permit from the Mining Remediation Authority (formerly the Coal Authority) on behalf of Pennine Geotechnical Services Ltd for Jackson Jackson and Sons Ltd. The permit is presented within Appendix B (permit reference: 29422).

5.3 Drilling Works

The works were undertaken by Pennine Geotechnical Services Ltd between the 5th February and 12th February 2025. The drilling was carried out using Klemm KR802 drilling rig with water flush. The drill bit diameter was 72 mm, with the casing being 101mm in diameter. 6.00m of casing was used sunk into the top of the bedrock. Ground gases were monitored at the rig head, with no detectable concentrations being encountered during the works.

Coal was encountered in 9 No. of the 25 No. boreholes drilled, where it was not encountered soft drilling and loss of flush returns was recorded at depths consistent with the depth at which the seam should have been, indicating collapsed or backfilled workings. Soft drilling and or loss of flush was recorded in 9 No. of the 25 No. boreholes drilled.

The plan detailing the location of the grouting boreholes is included within Appendix A and the drillers daily log sheets are included within Appendix C.

5.4 Grouting Works

A 10:1 ratio of PFA:OPC was used for the grout mix, with the specification requiring the grout to achieve a 1N/mm² strength after 28 days. The results of the cube strength testing carried out on samples of the grout used confirm that the PFA:OPC mix is suitable for use. A summary of the grout takes in each borehole is provided in Table 5.1 below:

Table 5-1 Grouting Summary

Borehole ID	Total Grout Intake (ltr)
BH1	250
BH2	125
BH3	125
BH4	125
BH5	130
BH6	125
BH7	125
BH8	130
BH9	125
BH10	125
BH11	125
BH12	125
BH13	125
BH14	130
BH15	125
BH16	125
BH17	125
BH18	130
BH19	250
BH20	125
BH21	130
BH22	125
BH23	125
BH24	250
BH25	250

The total grout take across the site was 3650 ltr. The full grouting records are included within Appendix D.

5.5 Testing

During the works 4 No. grout cube tests were taken, and tested at various ages, the results of which are presented in full in Appendix F.

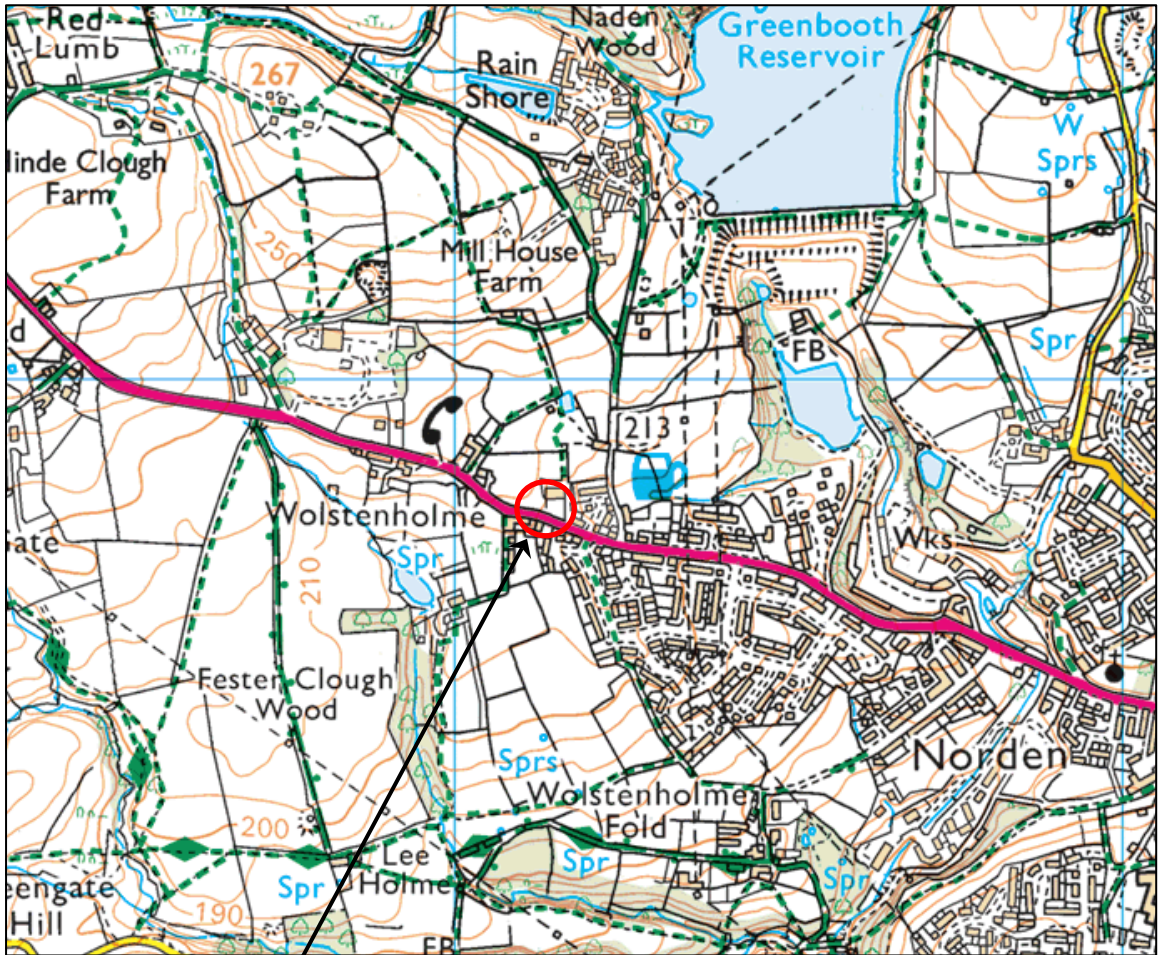
The cubes tested, achieved strengths between 2.2N/mm^2 and 2.8N/mm^2 (MPa). The required grout strength after 28 days was 1N/mm^2 (1 MPa) and therefore an adequate strength has been achieved.

6 SUMMARY

The site has been drilled & grouted by Pennine Geotechnical Services Ltd in line with the grouting specification. GSL have reviewed the site records and have determined that the site has been treated in accordance with the specification.

The Mining Remediation Authority Permit Closure form is therefore presented in Appendix E.

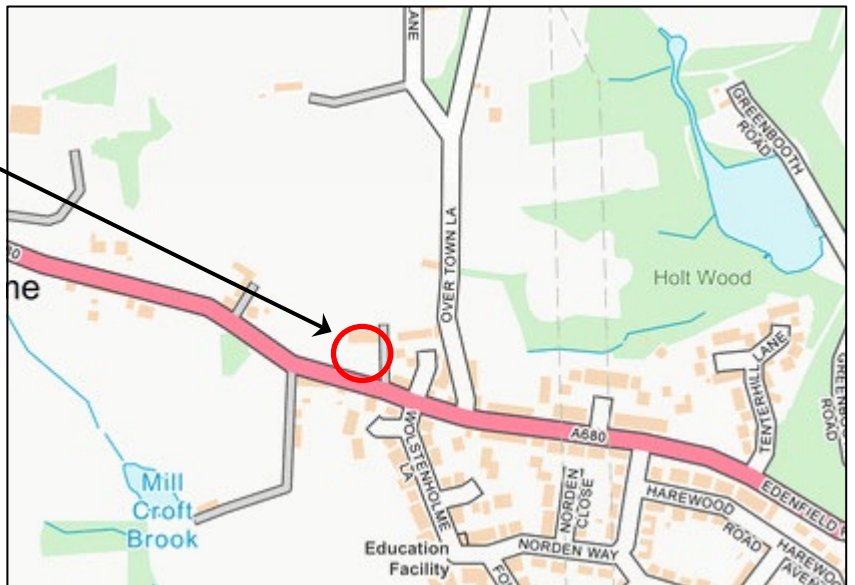
APPENDIX A – FIGURES AND DRAWINGS



SITE LOCATION

NEAREST POSTCODE: OL12 7TN

SITE ENTRANCE. WHAT THREE WORDS
///CUBES.UNEARTHLY.BREED



Not to Scale

Site Location Plan – 3232-1-001

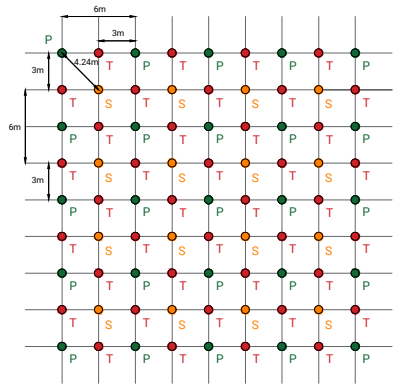
Drawn: CMcShane	Checked: xxx	Authorised: xx
Date: 10/02/24	Date: Xx/xx/xx	Date: Xx/xx/xx

GroundSolve Ltd
Unit 1, 85 Station Road,
Queensferry Flintshire CH5 2TB

GroundSolve Ltd
Consulting Geotechnical Engineers

Client: Pennine Geo

Project: GSL3232 Brickground



Typical detail on hole where grout take is high:
● P= Working identified in primary 6m grid. Where grout take is high and completion pressure cannot be achieved within a grout hole.
● S= Secondary grid holes to be drilled and grouted where evidence of potential workings are identified within the primary 6m grid.
● T= Tertiary boreholes drilled on a 3m grid, where grout take is high, and completion pressure cannot be achieved within a grout hole.



Location Symbols

- Approximate Primary Drill and Grout Location (6x6m Grid with 4.50m Offset from Edge of Building)

Notes:

Client:

Jackson, Jackson & Sons Ltd

Job No:

16-702

Date:

13.11.2024

Drawing No:

024

Scale:

NTS @ A3



Environmental Engineering
Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

P1	REVA	13.11.2024	CB	JS	JS
Phase	Issue	Date	Drawn	Checked	PM

Job Title:

Edenfield Road, Rochdale

Drawing Title:

Drill and Grout Plan

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.

APPENDIX B – MINING REMEDIATION AUTHORITY PERMIT



Mining
Remediation
Authority

Permit to Enter or Disturb Mining Remediation Authority Interests

Permit 29422

Name and Address of Permit Holder:

*Jackson & Sons Ltd
Jackson House
Red Lane
Rochdale
OL12 9DB*

Site Location:

*Edenfield Road
Rochdale
OL12 7UG*

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

Treatment of shallow mining workings by drilling and grouting on a 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: Jake Morris Granted Date: 23/01/2025

For and on behalf of the Mining Remediation Authority

Nominated Representative: Jake Morris, Permitting Manager;

Mining Remediation Authority, Permitting Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG

Tel: 01623 637450; E-Mail: permissions@coal.gov.uk



Mining
Remediation
Authority

Granted Permit Boundary

Permit Ref: 29422

Permit Boundary:



These maps are reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office. © Crown Copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Mining Remediation Authority. Licence No: AC0000820577. [216]

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 C – DRILLER'S DAILY LOG SHEETS



PENNINE

Geotechnical Services Ltd

www.penninegrouting.co.uk email: enquiries@penninegrouting.co.uk

* NIGHT/DAY SHIFT RECORD

Our Ref: 649 / No. 16410

Telephone: 01706 658299 Fax: 01706 860560

CLIENT Jackson + Jackson

DATE 11/2/25

SITE 962 EDENFIELD RD, NORDEN.

WEATHER RAIN

PLANT ON SITE: 1. <u>AS PREVIOUS</u> 2. 3. 4. 5. 6.		MATERIAL DELIVERED / USED: 1. QTY / 2. QTY / 3. QTY / 4. QTY / 5. QTY / 6. QTY /	
LABOUR: 1. <u>B. COOPER</u> 2. <u>S. ROBINSON</u> 3. <u>A. FENNON</u> 4. 5. 6.		No. OF HOLES DRILLED: 1. <u>Q 72</u> QTY <u>5</u> 2. <u>Q</u> QTY 3. <u>Q</u> QTY 4. <u>Q</u> QTY 5. <u>Q</u> QTY 6. <u>Q</u> QTY	

DAILY COMMENTS: 07:30 - ON SITE. 08:00 - WATER DELIVERY ARRIVED.
08:30 - 12:00 - DRILLED 3x BOREHOLES. 12:00 - 12:30 - DINNER.
12:30 - 15:00 - DRILLED 2x BOREHOLES. JET WASH RIG.
PUT ALL RODS + CASINGS ONTO SILEGE, PARK UP RIG READY
FOR GROUTING. TIDY UP SITE. COMPLETE PAPERWORK.
LEAVE SITE

DELAY TIME:

REASON:

1. hrs

1.

2. hrs

2.

3. hrs

3.

Compiled by [Signature]

Received by

* Delete as applicable



234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: **649**

Date: **11/2/25**

Driller: **B. Cooper**

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1659

OPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA										GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth	Strata from depth (m)	Strata to depth (m)	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	BH23		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.1						
		COAL									10.1	10.6						
		MUDSTONE									10.6	15.0						
		CASED	BH24		31m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.0						
		SOFT PUSH									9.0	9.9						
		HARD STRATA NO RETURNS									9.9	31.0						
		CASED	BH18		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.1						
		SOFT PUSH									9.1	10.0						
		HARD STRATA NO RETURNS									10.0	15.0						
		CASED	BH12		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.9						
		SOFT PUSH									8.9	9.6						
		HARD STRATA NO RETURNS									9.6	15.0						

Notes

CREW:

Signed Driller:



**PENNINE**Drilling & Grouting Services Ltd
Geotechnical Services Ltd234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk**Drillers Daily Drilling****Record** (Soil Nail/Anchor/
Pile Installation)Contract no/Site: 649Date: 5/2/25Driller: B. Cooper**Equipment on Site:**

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:**1653**

OPC: _____

Sand: _____

Gravel: _____

PFA: _____

OTHER: _____

Start time	End time	Activity/Strata Description	DRILLING DATA								Strata from depth (m)	Strata to depth (m)	GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth			Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	B119		30m	72	W	72	101	6	0.0	6.0						
		MUDSTONE									6.0	8.9						
		SHALEY COAL									8.9	9.1						
		FRACTURED MUDSTONE									9.1	11.9						
		HARD STRATA NO RETURNS									11.9	31.0						
		CASED	B113		15m	72	W	72	101	6	0.0	6.0						
		MUDSTONE									6.0	9.0						
		COAL TRACE									9.0	9.2						
		FRACTURED MUDSTONE									9.2	12.0						
		HARD STRATA NO RETURNS									12.0	15.0						

Notes**CREW:**Signed Driller: B. Cooper



Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: 649

Date: 6/2/25

Driller: B. Cooper

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

1654

Sand:

Gravel:

PFA:

OTHER:

[illegible]

CREW:

Signed Driller:



234 College Road
Rochdale Lincs OL12 6AF
Tel: (01706) 658299/861623
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email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling Record (Soil Nail/Anchor/ Pile Installation)

Contract no/Site: **649**
Date: **7/2/25**
Driller: **B. COOPER**

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1655

OPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA										GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth	Strata from depth (m)	Strata to depth (m)	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	BH2		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	9.2						
		COAL									9.2	9.4						
		MUDSTONE									9.4	15.0						
		CASED	BH8		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.1						
		SOFT PUSH									8.1	10.0						
		HARD STRATA NO RETURNS									10.0	15.0						
		CASED	BH14		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.5						
		COAL									10.5	11.2						
		MUDSTONE									11.2	15.0						
		CASED	BH20		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.6						
		COAL									10.6	11.3						
		MUDSTONE									11.3	15.0						

Notes

CREW:

Signed Driller:



PENNINE

Drilling & Grouting Services Ltd
Geotechnical Services Ltd

234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: **649**

Date: **7/2/25**

Driller: **B. Cooper**

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1656

OPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA										GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth	Strata from depth (m)	Strata to depth (m)	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	BH21		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.6						
		COAL									10.6	10.8						
		MUDSTONE									10.8	15.0						
		CASED	BH3		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.5						
		SOFT PUSH									9.5	10.3						
		HARD STRATA NO RETURNS									10.3	15.0						
		CASED	BH9		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.6						
		SOFT PUSH									9.6	10.4						
		HARD STRATA NO RETURNS									10.4	15.0						
		CASED	BH22		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.7						
		COAL									10.7	10.9						
		MUDSTONE									10.9	15.0						

Notes

CREW:

Signed Driller:



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Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: 6149

Date: 10/12/25

Driller: B. Cooper

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1657

OPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA								GROUTING MATERIAL							
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth	Strata from depth (m)	Strata to depth (m)	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	BH15		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.2						
		COAL									10.2	10.6						
		MUDSTONE									10.6	15.0						
		CASED	BH16		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.2						
		SOFT PUSH									9.2	9.8						
		HARD STRATA NO RETURNS									9.8	15.0						
		CASED	BH10		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	9.3						
		COAL									9.3	9.5						
		MUDSTONE									9.5	15.0						
		CASED	BH14		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.2						
		SOFT PUSH									9.2	10.4						
		HARD STRATA NO RETURNS									10.4	15.0						

Notes

CREW:

Signed Driller:



234 College Road
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Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: 649

Date: 10/2/25

Driller: B. Cooper

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1658

OPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA										GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth	Strata from depth (m)	Strata to depth (m)	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	BH5		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.7						
		SOFT PUSH									8.7	10.0						
		HARD STRATA NO RETURNS									10.0	15.0						
		CASED	BH11		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.6						
		SOFT PUSH									8.6	10.1						
		HARD STRATA NO RETURNS									10.1	15.0						
		CASED	BH5		30m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.8						
		SOFT PUSH									8.8	10.1						
		HARD STRATA NO RETURNS									10.1	31.0						
		CASED	BH17		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.9						
		SOFT PUSH									8.9	10.2						
		HARD STRATA NO RETURNS									10.2	15.0						

Notes

CREW:

Signed Driller:



234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/ Site: **649**

Date: **11/2/25**

Driller: **B. Cooper**

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	DTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1659

OPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA										GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth	Strata from depth (m)	Strata to depth (m)	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		CASED	BH23		15m	72	W	72	101	6m	0.0	6.0						
		MUDSTONE									6.0	10.1						
		COAL									10.1	10.6						
		MUDSTONE									10.6	15.0						
		CASED	BH24		31m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.0						
		SOFT PUSH									9.0	9.9						
		HARD STRATA NO RETURNS									9.9	31.0						
		CASED	BH18		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	9.1						
		SOFT PUSH									9.1	10.0						
		HARD STRATA NO RETURNS									10.0	15.0						
		CASED	BH12		15m	72	W	72	101	6m	0.0	6.0						
		FRACTURED MUDSTONE									6.0	8.9						
		SOFT PUSH									8.9	9.6						
		HARD STRATA NO RETURNS									9.6	15.0						

Notes

CREW:

Signed Driller:



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Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: 649

Date: 11/2/25

Driller: B. Cooper

Equipment on Site:

Rig

Compressor

Grout Pump

Mixer

Water Pump

Hose

Power Pack

Telehandler

Jet Wash

Fuel Bowser

Water Tank

Generator

Augers

Casing

Rods

DTH Hammer

Welder

Other

Deliveries:

1660

OPC:

Sand:

Gravel:

PFA:

OTHER:

[illegible]

CREW:

Signed Driller:



234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: 1649

Date: 12/27/25

Driller: B. COOPER

Equipment on Site:

Rig

Power Pack

Augers

Compressor

Telehandler

Casing

Grout Pump

Jet Wash

Rods

Mixer

Fuel Bowser

DTH Hammer

Water Pump

Water Tank

Welder

Hose

Generator

Other

Deliveries:

1662

OPC;

Sand:

Gravel:

PFA:

OTHER:

[illegible]

Notes All BOREHOLES FILLED STRAIGHT UP.

CREW:

Signed Driller:



PENNINE
Drilling & Drilling Services Ltd
Geotechnical Services Ltd

234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling Record (Soil Nail/Anchor/ Pile Installation)

Contract no./Site: **649**

Date: **12/2/25**

Driller: **B Cooper**

Equipment on Site:

Rig	Power Pack	Augers
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	OTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1661

GPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA								Strata from depth (m)	Strata to depth (m)	GROUTING MATERIAL					
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size	Casing depth			Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		COMPLETE	BH1		31m	72	W	72	101	6m				250	625			
		"	BH2		15m	"	"	"	"	"				125	625			
		"	BH3		"	"	"	"	"	"				125	625			
		"	BH4		"	"	"	"	"	"				125	625			
		"	BH5		"	"	"	"	"	"				130	625			
		"	BH6		"	"	"	"	"	"				125	625			
		"	BH7		"	"	"	"	"	"				125	625			
		"	BH8		"	"	"	"	"	"				130	625			
		"	BH9		"	"	"	"	"	"				125	625			
		"	BH10		"	"	"	"	"	"				125	625			
		"	BH11		"	"	"	"	"	"				125	625			
		"	BH12		"	"	"	"	"	"				125	625			
		"	BH13		"	"	"	"	"	"				125	625			
		"	BH14		"	"	"	"	"	"				130	625			
		"	BH15		"	"	"	"	"	"				125	625			
		"	BH16		"	"	"	"	"	"				125	625			

Notes All BoreHoles filled STRAIGHT UP

CREW:

Signed Driller:

APPENDIX D – GROUTING RECORDS



PENNINE
Drilling & Drilling Services Ltd
Geotechnical Services Ltd

234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling Record (Soil Nail/Anchor/ Pile Installation)

Contract no./Site: **649**
Date: **12/2/25**
Driller: **B Cooper**

Equipment on Site:

Rig	Power Pack	Augers:
Compressor	Telehandler	Casing
Grout Pump	Jet Wash	Rods
Mixer	Fuel Bowser	OTH Hammer
Water Pump	Water Tank	Welder
Hose	Generator	Other

Deliveries:

1661

GPC:

Sand:

Gravel:

PFA:

OTHER:

Start time	End time	Activity/Strata Description	DRILLING DATA							Strata from depth (m)	Strata to depth (m)	GROUTING MATERIAL						
			Bore Hole No.	Cage Lth m	Bore Hole Depth	Bore Hole Dia	Flush type	Bit type & size	Casing size			Casing depth	Grout mix	Grout 1 take KG	Grout 2 take KG	Grout 3 take KG	Sand Kg	Gravel Kg
		COMPLETE	BH1		31m	72	W	72	101	6m				250	625			
		"	BH2		15m	"	"	"	"	"				125	625			
		"	BH3		"	"	"	"	"	"				125	625			
		"	BH4		"	"	"	"	"	"				125	625			
		"	BH5		"	"	"	"	"	"				130	625			
		"	BH6		"	"	"	"	"	"				125	625			
		"	BH7		"	"	"	"	"	"				125	625			
		"	BH8		"	"	"	"	"	"				130	625			
		"	BH9		"	"	"	"	"	"				125	625			
		"	BH10		"	"	"	"	"	"				125	625			
		"	BH11		"	"	"	"	"	"				125	625			
		"	BH12		"	"	"	"	"	"				125	625			
		"	BH13		"	"	"	"	"	"				125	625			
		"	BH14		"	"	"	"	"	"				130	625			
		"	BH15		"	"	"	"	"	"				125	625			
		"	BH16		"	"	"	"	"	"				125	625			

Notes All BoreHoles filled STRAIGHT UP

CREW:

Signed Driller:



234 College Road
Rochdale Lancs OL12 6AF
Tel: (01706) 658299/861623
Fax: (01706) 860560
email: enquiries@penninegrouting.co.uk
www.penninegrouting.co.uk

Drillers Daily Drilling

Record (Soil Nail/Anchor/
Pile Installation)

Contract no/Site: 1649

Date: 12/27/25

Driller: B. COOPER

Equipment on Site:

Rig

Power Pack

Augers

Compressor

Telehandler

Casing

Grout Pump

Jet Wash

Rods

Mixer

Fuel Bowser

DTH Hammer

Water Pump

Water Tank

Welder

Hose

Generator

Other

Deliveries:

1662

OPC;

Sand:

Gravel:

PFA:

OTHER:

[illegible]

Notes All BOREHOLES FILLED STRAIGHT UP.

CREW:

Signed Driller:

APPENDIX E – MINING REMEDIATION AUTHORITY PERMIT CLOSURE FORM

Permit Closure Summary Form

Permit Ref.	29422	Project / Site Location	Edenfield Road, Rochdale, , OL12 7UG
-------------	--------------	-------------------------	--------------------------------------

Please supply all relevant documents, including this completed form within 3 months of the permitted works being completed.

Where relevant the report should include; borehole logs and details of mine or mine entry treatment works carried out (incl. engineering drawings, grout takes etc.) and a scaled site layout plan (correlated to O.S N' Grid) showing all relevant mine entry positions, coal seams, voids and broken ground proved by the works.

Summary of works

Start date

05/02/2025

Finish date

12/02/2025

Have any variations occurred? ☒ No ☐ Yes

If so was the Authority notified? ☒ No ☐ Yes

Please describe;

Did if any of the following incidents occur?

- ☐ Spontaneous combustion
 ☐ Water emission
 ☐ Gas emission (elevated or above action levels)
 ☐ Geotechnical instability
 ☐ Legal issues incl. damage or potential claims
 ☒ None

If yes, please detail each item;

Were any of the following encountered? Please give a brief summary of the works undertaken.

- ☒ Intact coal only
 ☐ Broken ground
 ☐ Backfilled ground
 ☐ Voids

Description;

Coal was encountered in 9 No. of the 25 No. boreholes drilled, where it was not encountered soft drilling and loss of flush returns was recorded at depths consistent with the depth at which the seam should have been indicating workings. Soft drilling and or loss of flush was recorded in 9 No. of the 25 No. boreholes drilled.
The total grout intake was 3650 ltr

Will further works be necessary that require a Permit? ☒ No ☐ Yes

If yes, please describe, including any recommendations;

Name: Coral McShane	Email: coralmcshane@groundsolve.com
Company: Groundsolve Ltd	Tel: 01244 952295

APPENDIX F – GROUT CUBE TEST RESULTS

Project Details		Report Details	
Client:	PENNINE GEOTECHNICAL SERVICES LTD	Report No.:	CONC:NOR25-01274-C0001
Client Address:	HOLMES ROAD ROCHDALE OL12 6AG	Report Date:	10/04/2025
Project:	P251126 - MA - 649 Land Adjacent to 962 Edenfield Road, Norden, Rochdale OL12 7TW	Issue No.:	3
		Recipients:	Vicky Klieve

Field Details and Results			
Location in Works:	GROUT	Mix:	Data not supplied
<i>Fresh Concrete Sampling performed by third party and not covered under this laboratory's accreditation</i>			
Sample ID:	NOR25-01274-C0001	Client Sample ID:	NOR037768
Date Sampled (Specimens):	12/02/2025		

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:		12/02/2025		Date and Time Received:			17/02/2025 15:14	
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/m³)	Failure Load (kN)	Compressive Strength (N/mm²)	Specified Strength (N/mm²)
001362\A	A	7	19/02/2025	100/100/100	1280	22.0	2.2	
Mass Determination: As Received.								
001362\B	B	28	12/03/2025	100/100/100	1310	24.5	2.4	
Mass Determination: As Received.								
001362\C	C	28	12/03/2025	100/100/100	1320	26.2	2.6	
Mass Determination: As Received.								
001362\D	—	56	09/04/2025	100/100/100	1320	27.9	2.8	
Mass Determination: As Received.								

Notes	
The following apply unless otherwise stated in specimen notes: Laboratory curing tank temperature range (°C): 18 to 22. Specimen appearance as received satisfactory. Specimens transported within 16 hours of making are classified as deviating from the standard requirements.	
	BS EN 12390-7 - 2019 Hardened concrete density test carried out in saturated condition. 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:		Julie Schofield - Concrete Section Manager
Signed Date:	10/04/2025	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.