

**BLESSED CARLO ACTUTIS SCHOOL**  
**GWAUNFARREN ROAD**  
**MERTHYR TYDFIL**

## **Completion Report**

Consolidation of Potential Abandoned Coal Mine  
Workings by Drilling and Grouting

Works have been undertaken with permission of Coal Authority



Van Elle  
Summit Close  
Kirkby in Ashfield  
Nottinghamshire  
NG17 8GJ  
01773 580580

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## Control Sheet

This report has been prepared for the sole benefit, use and information of Willmott Dixon for the purposes set out in the instructions commissioning it. The liability of Van Elle Ltd in respect of the information contained in the report will not extend to any third party. It is now the client's responsibility to fulfil the Coal Authorities requirements with regards to the Coal Authority Permit.

| <b>SUMMARY TABLE: COMPLETION REPORT FOR THE DRILLING AND GROUTING TREATMENT OF POTENTIAL MINEWORKINGS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SITE:</b>                                                                                              | Blessed Carlo Actutis Catholic School, Gwaunfarren Road, Merthyr Tydfil, South Wales, CF47 9AP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>CLIENT:</b>                                                                                            | Willmott Dixon Construction<br>Head Office: Suite 201, The Spirella Building, Bridge Road, Letchworth Garden City, Herts SG6 4ET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>DATE:</b>                                                                                              | 10 October 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>REFERENCE:</b>                                                                                         | VE240753 – PS3602 V1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>DEVELOPMENT PROPOSAL:</b>                                                                              | The proposed development comprises the construction of a substantial school complex on the site of a former school.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>COAL MINING GEOLOGY:</b>                                                                               | <p>South Wales Lower Coal Measures Formation, with the Metal and Five-Quarters at sub-crop. BGS Geological Sheet 231 (Merthyr Tydfil) infers the GARW and Gellideg coal seams to be in the vicinity of the site.</p> <p>The general strata are shown to dip towards the south-east at c. 14°.</p> <p>There are recorded mine entries within the general area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>SCOPE OF DRILLING AND GROUTING WORKS:</b>                                                              | <p>A total of 415 no. production grout take holes were drilled as part of the shallow mine workings consolidation scheme, along with 14 no. test holes.</p> <p>Grout holes were drilled to an average completion depth of 30m bgl in accordance with the Coal Authority treatment permit.</p> <p>Several separate intact coal seams were identified across the site of varying but significant thickness. However, broken and soft ground, indicating the possible presence of abandoned workings were only recorded in the lowermost coal seam, generally below 22m bgl.</p> <p>Grout was batched on site using an electric 6T Mixer. Constituent materials were introduced by a loading shovel and pumped to each bore using a Bauer HP-35e Material Pump until boreholes were deemed full.</p> |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                             |                      |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------|
|                    | <p>The grout for this project comprised a 10:1 PFA:OPC mix. A total of 1,179 tonnes of grout mixture was injected beneath the area. Grout takes varied markedly, with high tonnages recorded in injection holes that intercepted broken ground at depth and low takes (sufficient to fill the injection hole only) in holes that intercepted intact coal only.</p> <p>In addition, 1 no. shaft (TCA Ref: 305207-009) has been satisfactorily treated by pressure grouting. A total of 7.3 tonnes of grout was introduced into the shaft.</p> |                                                                                             |                      |
| <b>CONCLUSION:</b> | <p>It is considered that abandoned workings were recorded beneath the site at a depth of between 23m and 27m bgl</p> <p>Notwithstanding this, it is considered that sufficient stabilisation works have now been undertaken to the Engineers satisfaction and that no further ground stabilisation works are required.</p> <p>However, it is recommended that vigilance is maintained, particularly during earthworks phases of future work, for possible coal related features including unrecorded mine entries.</p>                       |                                                                                             |                      |
| Author:            |                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Phil Shelton BSc PhD CEng MIMMM FGS<br><i>Associate</i>                                     |                      |
| Date:              | October 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                             |                      |
| Version:           | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                             |                      |
| Prepared by        | Phil Shelton                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Signed  | Date<br>October 2024 |
| Approved by        | Sam Palmer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Signed <i>S. Palmer</i>                                                                     | Date<br>October 2024 |

## 1 Introduction

Willmott Dixon Construction Ltd (Willmott Dixon), propose to construct a substantial new school complex at the site of a former school (now demolished) off Gwaunfarren Road, Merthyr Tydfil, South Wales, CF47 9AP.

Site location Plans (**Figures 1 and 2**) are included in **Appendix A**.

Reference to the Coal Authority Interactive Map Viewer and BGS sources indicate that the site is on the edge of a Development High Risk Area and that there is potential for there being unrecorded mine workings at shallow depth, along with recorded and unrecorded mine entries.

As a result, a full treatment scheme including drilling and grouting on a 6m x 6m grid beneath the full proposed school footprint, with provision of additional infill treatment along with the treatment of 1 no. recorded shaft was recommended by others.

This report relates to a programme of pre-construction consolidation treatment of potential abandoned shallow coal mine workings undertaken by Van Elle Ltd (Van Elle).

The scope of works for the mine workings consolidation has been developed by others. The site works were overseen by an engineer appointed by the client.

The works have included the drilling of 415 no. production rotary boreholes, along with 14 no. test holes and their controlled backfilling with a PFA: OPC cement-based grout. In addition, 1 no. shaft (TCA Ref: 305207-009) has been satisfactorily treated by pressure grouting.

The works were undertaken in stages between 9<sup>th</sup> July and 16<sup>th</sup> September 2024, following the application and issue of a coal disturbance permit (Ref: 28428) by The Coal Authority (TCA) on 17<sup>th</sup> June 2024. A copy of the permit is included as **Appendix B**.

## 2 Data References

- Proposed site plan – **Appendix A**;
- CIRIA Pub 32 1984 – 2002 Construction over abandoned mine workings;
- CIRIA C758D Nov 2019 Abandoned Mine Workings Manual;
- VE Health and Safety Policy;
- CA Permit – **Appendix B**;
- BGS Geological Sheet 213, Merthyr Tydfil;
- On-line geological data sources;
- CL:AIRE “Good Practice for Risk Assessment for Coal Mine Gas Emissions”, October 2021;
- CA Interactive web site.

### 3 Site Location and Description

The site is located approximately 1.15km north-east of Merthyr Tydfil town centre, which until recently was occupied by former school buildings. It comprises a triangular area of open land, covering an area of approximately 2.1 hectares – see **Figure 2** in **Appendix A**, although the TCA Permit area is slightly less – see **Figure 3** in **Appendix A** and **Appendix B**. At the time of the works described herein, the site had apparently been cleared in preparation for the development.

The site is bounded to the west by Galan Uchaf Road and open space known as Galan Uchaf Park, to the south by Gwaunfarren Road, other school buildings and sports fields, and to the east by a substantial residential area.

The National Grid Reference for the approximate centre of the site is 305355 207445. The average site elevation is about 280m aOD.

The site location and views of the current site layout are shown in **Appendix A**.

A site walkover was undertaken of the areas for development prior to undertaking the works.

It is known that Merthyr Tydfil has historically been a heavy coal mining centre.

### 4 Ground Conditions & Geology<sup>1</sup>

Local geological information has been obtained from the British Geological Survey (BGS) published mapping and other sources as detailed below:

- 1:50,000 scale Sheet 213 Merthyr Tydfil;
- on-line digital mapping (GeoIndex).

These sources, along with historical evidence, indicate that Made Ground of variable/uncertain thickness and composition should be expected.

Geological mapping indicates an unknown thickness of glacial till (also known as diamicton), which is of Quaternary age. Glacial till generally comprises overconsolidated, poorly sorted clay, silt, sand and gravel.

Solid strata of the South Wales Lower Coal Measures Formation, which are of Carboniferous age, are expected to be present beneath the site. These generally comprise cyclical sequences of mudstones, siltstones and sandstones, with economically viable coal seams.

Extracts from geological sources are shown in **Figures 5** and **6** in **Appendix A**. Known relevant shallow coal seams are shown to sub-crop beneath the site and the general area,

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<sup>1</sup> Details of ground conditions are not definitive representations, they are intended as a summary only

all of which are believed to be of minable thickness and include the Gellideg and GARW seams.

The general strata are shown to dip towards the south-east at c. 14°.

There are recorded mine entries within the general area – see **Figure 3** in **Appendix A**, including TCA Shaft Ref: 305207-009, which has a recorded position on the edge of the site and potentially within influencing distance of the proposed development.

## 5 Methodology

The mine workings consolidation works for the area covered by this report were undertaken in stages between 9<sup>th</sup> July and 11<sup>th</sup> September 2024. The works were undertaken in general accordance with the Code of Practice for Site Investigations BS5930: 2015 and CIRIA guidances on the treatment of shallow mineworkings, instructions from the Client and VE's risk assessment method statement.

The mine workings consolidation treatment incorporated the following:

The advancing of a total of 415 no. production rotary grout injection holes and 14 no. test holes.

A large majority of injection holes were drilled to a depth of 30mbgl (Just 1 no. hole was drilled to 38m bgl), in accordance with the guidance included with the CA treatment permit (**Appendix B**).

Grout was batched on site using an electric 6T Mixer. Constituent materials were introduced by a loading shovel and pumped to each bore using a Bauer HP-35e Material Pump until boreholes were deemed full.

The grout for this project comprised a 10:1 PFA:OPC mix. The rotary injection borehole details and grout takes are tabulated and represented spatially in **Appendix C**.

## Drilling

The drill and grout works were designed to consolidate voids and disturbed ground resulting from the long-term collapse of potential abandoned mine workings at shallow depth beneath the proposed development.

The treatment has also been designed in consideration of the existing site layout, the development proposal and health and safety issues. Drilling was undertaken by open hole methods using a Casagrande C6 XP 1440 track-mounted rig(s). On completion of each grout injection hole, a sacrificial plastic casing was installed to rockhead. This was to depths of between 6m and 14m bgl (average 10m bgl).

Injection holes were set out on a 6m x 6m grid, with the provision of adding intermediate injection holes to give a 4.25m spacing.

Boreholes were designated in regular rows numbered 1 to 71 inclusive and regular columns lettered A to AW inclusive to give each injection hole a unique reference - see **Figure 4** in **Appendix A** and **Appendix C**.

All of the boreholes were drilled vertical.

Superficial deposits (including Made Ground and glacial till) and some heavily weathered solid strata were found to depths of between 4.5m and 14.0m bgl (average 9.5m bgl).

Solid strata comprised Coal Measures mudstone/sandstones along with at least 4 no. coal seams.

Throughout the works monitoring for the presence of harmful gases was maintained at the drill rig. Gases included: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) hydrogen sulphide (H<sub>2</sub>S) and methane (CH<sub>4</sub>) along with levels of airborne oxygen (O<sub>2</sub>). The drilling crew also carried personal gas alarms, which activate visible and audible alarms should concentrations of any of these gases reach pre-determined trigger levels. No harmful levels of gases were recorded during the works.

A summary of grout injection hole drilling records is included in **Appendix C**.

At the position of the recorded mine entry TCA Ref: 305207-009, the base of the shaft was found to be at a depth of 12.7m bgl (proved by further drilling at BH1 into solid strata to a depth of 17.7m). 2 additional boreholes, designated BH2 and TH were also drilled to depths of 12.7m bgl.

## Grouting

Each borehole was filled with a cementitious grout with a composition of 10:1 PFA and OPC.

Grout was batched on site using an electric 6T Mixer. Constituent materials were introduced by a loading shovel and pumped to each bore using a Bauer HP-35e Material Pump under hydrostatic pressure until boreholes were deemed full. All plant was certified safe and maintained properly throughout the operation.

The grout for this project comprised a 10:1 PFA:OPC mix. A total of 1,179 tonnes of grout mixture was injected beneath the footprint of the proposed school.

During grouting sets of grout cubes was formed on a weekly basis for 7 day 14 day and 28 day strength testing at an accredited laboratory. Available cube test results are included in **Appendix D**. Outstanding results will be sent under a separate cover letter.

A summary of grouting records is included in **Appendix C**.

## Test Boreholes

A total of 14 no. non-production test grout boreholes were drilled at the grid reference shown in **Appendix C**. The positions of the test holes were selected by Van Elle and were placed close to production boreholes that had shown large grout takes. The test holes were subsequently subjected to sustained pressure grouting. The results confirmed that 2 bars of pressure was sustained for 2 minutes. Only minimal grout takes were recorded in the test holes. A summary of test grout hole details is included in **Appendix C**.

## 6 Ground Stability Assessment

This Ground Stability Assessment considers the proposed development following drill and grouting works designed to consolidate potential abandoned coal mine workings.

Drillers' records give a qualitative description of the condition of coal and/or mine workings as encountered using rotary drilling methods. These are based on chipping returns and borehole penetration rate and can be summarised as follows:

|               |   |                                                                                              |
|---------------|---|----------------------------------------------------------------------------------------------|
| Coal          | - | Interpreted as intact coal;                                                                  |
| Soft          | - | Interpreted as rapid penetration through potential old mine workings that have been grouted; |
| Broken Ground | - | Interpreted as ground, including small voids disturbed by potential old mine workings;       |
| Void          | - | Empty space, with drill rods falling with no resistance.                                     |

**Appendix C** shows the positions of the grout injection holes along with a visual representation of the conditions encountered at the level of the coal seams. These results can be summarised as follows:

|                             |   |                              |
|-----------------------------|---|------------------------------|
| Coal and intact ground only | - | Recorded at 46% of boreholes |
| Coal and soft ground        | - | Recorded at 6% of boreholes  |
| Coal and Broken Ground      | - | Recorded at 48% of boreholes |
| Void                        | - | Not encountered              |

**Appendix C** tabulates the quantities of grout injected into each injection borehole.

## Summary

The stabilisation works involved the drilling of 429 no. production and test holes (12,958 linear metres).

Between the base of overburden (Made Ground and superficial soils) and about 22.0m bgl at least 3 no. seams of intact coal were encountered, varying in thickness between less than 1.0m to 1.5m thick. Tracking the positions of these seams across the site is beyond the scope of this report, however it is clear that there are no indications of workings in any of these seams above 22m bgl.

However, below 22m bgl, a fourth coal seam was encountered. At the southern end of the site (for instance M53 to M61 and K55 to K61), this was recorded as intact coal between 1.0m and 2.0m thick. However over most of the rest of the site it was mainly recorded either as a thick zone of broken ground or completely absent to 30m bgl. The distribution of intact coal, broken ground and solid strata (coal absent) is shown spatially in **Appendix C**.

It was noted that full flush returns were recorded where broken ground was not encountered below 22m bgl, while complete loss of flush was recorded in every injection hole where broken ground was recorded. It is concluded from this that the lowermost coal seam has probably been worked.

The subsequent hydrostatic pressure grouting of the injection holes does not allow for a distinction to be made for the depths at which excess grout is migrating into workings. But, reference to the spreadsheet showing drill and grout data (**Appendix C**) shows that in every case where either intact coal or intact strata were recorded to the 30m completion depth, minimal grout takes were recorded, usually about 0.33 tonnes. This is just sufficient to fill the borehole volume. However, in all cases where broken ground was recorded, excess grout takes were also recorded, in some cases up to 30 tonnes.

These results appear to confirm that the excess grout was migrating into the abandoned shallow coal mine workings.

Notwithstanding the above, the grout takes in the test boreholes (which were positioned in areas of high grout take), minimal grout takes were recorded, which confirms that the stabilisation works have been successful.

## Shaft Ref:305207-009

At the position of the recorded mine entry TCA Ref: 305207-009, the base of the shaft was found to be at a depth of 12.7m bgl (proved by further drilling at BH1 into solid strata to a depth of 17.7m). 2 additional boreholes, designated BH2 and TH were also drilled to depths of 12.7m bgl. Steel casing was set to the base of the shaft.

Grout was introduced through the steel casing under a pressure of 2 bars, which was sustained for a minimum two minutes, following which 2m section of casing was removed and the process repeated until the casing was fully removed.

In this way, a total of 7.3 tonnes of grout was injected into the shaft.

## **7 Conclusion**

In order to prepare for the proposed development at the site known as Blessed Carlo Actutis Catholic School, Gwaunfarren Road, Merthyr Tydfil, South Wales, CF47 9AP a mine working consolidation programme has been undertaken by drilling and grouting.

Grout injection boreholes were set out and drilled on a surveyed grid beneath the footprint of the proposed development and cementitious grout was pumped into each borehole.

A total of 429 no. production and test grout holes were drilled on a 6.0m x 6.0m grid with staggered infill holes. Grout holes were drilled to an average depth of about 30m bgl utilising water flush. Circumstantial evidence of abandoned coal mine workings was encountered in about 48% of the injection boreholes.

Several separate intact coal seams were identified across the site of varying but significant thickness. However, broken and soft ground, indicating the possible presence of abandoned workings were only recorded in the lowermost coal seam, generally below 22m bgl.

Grout was batched on site using an electric 6T Mixer. Constituent materials were introduced by a loading shovel and pumped to each bore using a Bauer HP-35e Material Pump until boreholes were deemed full.

The grout for this project comprised a 10:1 PFA:OPC mix. A total of 1,179 tonnes of grout mixture was injected beneath the area. Grout takes varied markedly, with high tonnages recorded in injection holes that intercepted broken ground at depth and low takes (sufficient to fill the injection hole only) in holes that intercepted intact coal only.

In addition, 1 no. shaft (TCA Ref: 305207-009) has been satisfactorily treated by pressure grouting. A total of 7.3 tonnes of grout was introduced into the shaft.

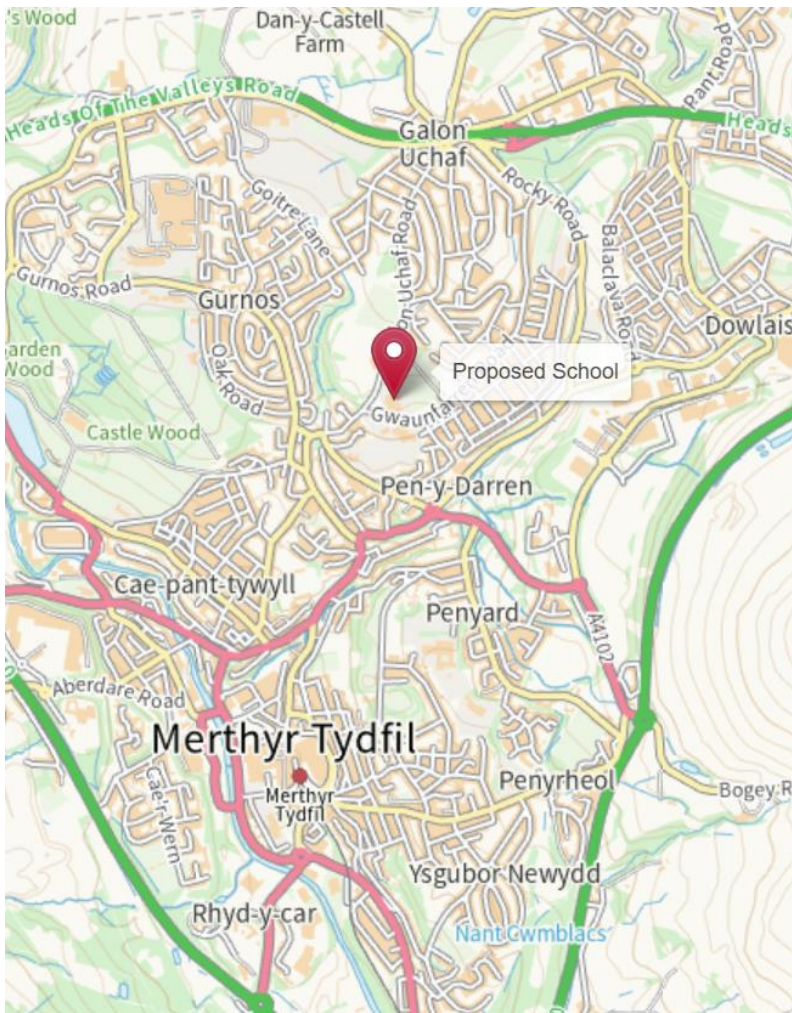
Having undergone the mine workings consolidation treatment undertaken by Van Elle during July to September 2024, it is considered that no further works will be necessary within the footprint of the proposed development in respect of coal mining legacy.

However, there is always a risk of encountering an unrecorded mine entry in development risk areas. It is not considered appropriate to make a specific search, but earthworks contractors and ground workers should be informed of the need to be vigilant during site clearance and construction works.

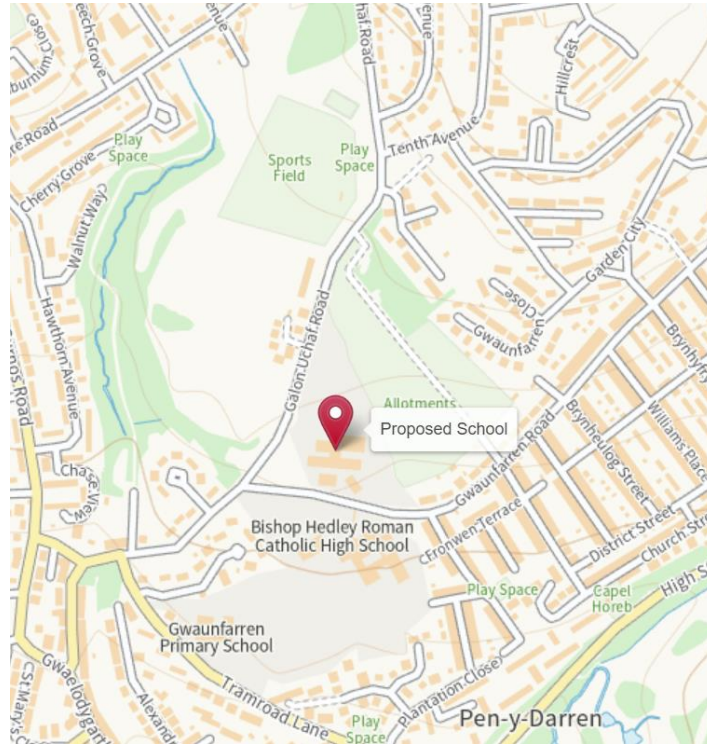
# Appendix A

## Figures

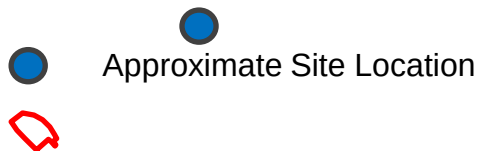




Grid Reference: 305355 207445  
Post Code: CF47 9AN



KEY:



Approximate Site Location



Total Foundation Solutions

Van Elle Limited  
Kirkby Lane, Pinxton  
Nottinghamshire  
NG16 6JA

Tel: 01773 580580  
Fax: 01773 862100

TITLE:

Site Location

PROJECT:

Blessed Carlo Actutis School

PROJECT No:

VE240753

DATE:

October 2024

SCALE:

NTS

DRAWN:

PS

DWG No:

Figure 1

DO NOT SCALE



KEY:



Approximate Site  
Boundary

DO NOT SCALE



Van Elle Limited  
Kirkby Lane, Pinxton  
Nottinghamshire  
NG16 6JA

Tel: 01773 580580  
Fax: 01773 862100

TITLE:

Aerial View of Site, Pre-Demolition

PROJECT:

Blessed Carlo Actutis School

PROJECT No:

VE240753

DATE:

October 2024

SCALE:

NTS

DRAWN:

PS

DWG No:

Figure 2



Permit Ref: 28428

Permit Boundary:



KEY:

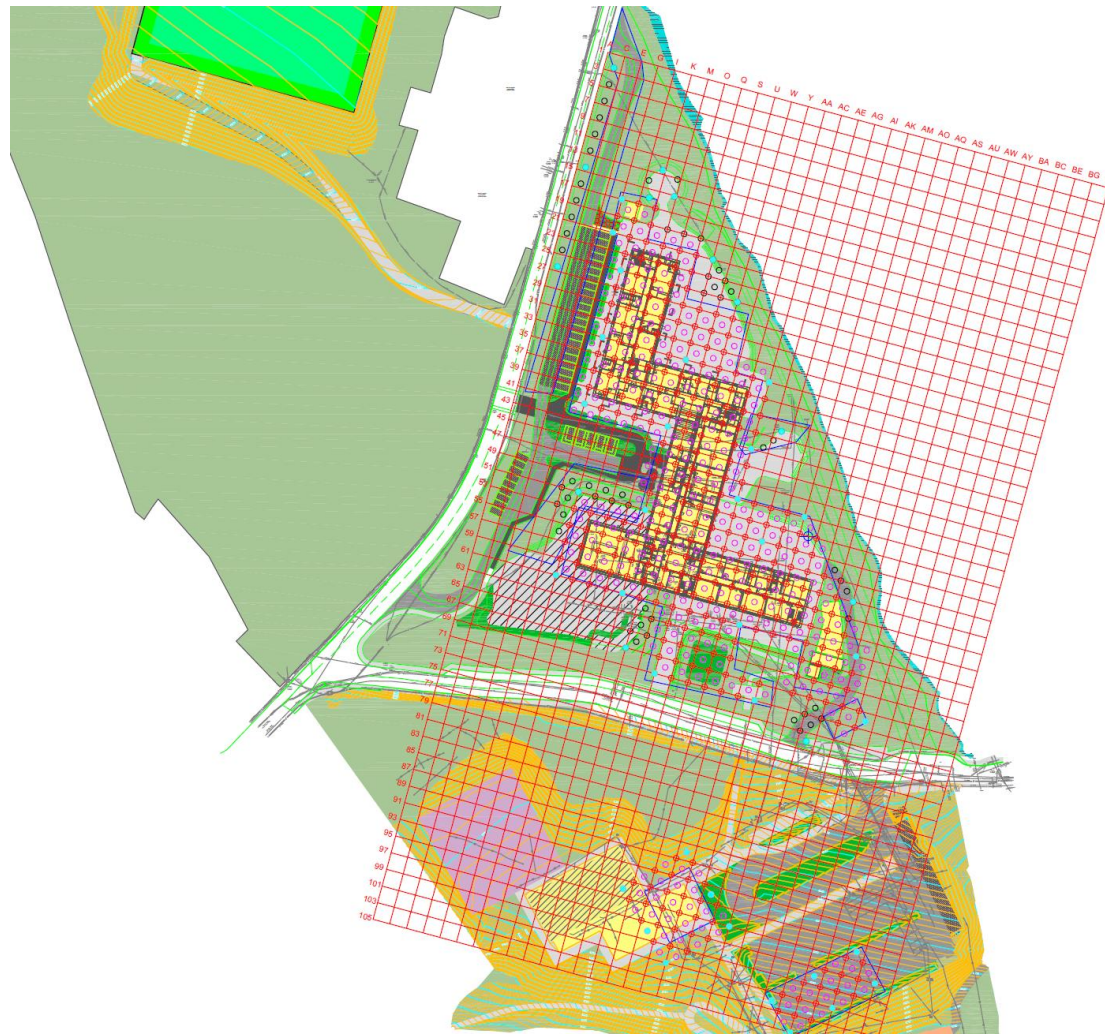
DO NOT SCALE



Van Elle Limited  
Kirkby Lane, Pinxton  
Nottinghamshire  
NG16 6JA

Tel: 01773 580580  
Fax: 01773 862100

|                                          |                       |                     |
|------------------------------------------|-----------------------|---------------------|
| TITLE:<br>TCA Permit Plan                |                       |                     |
| PROJECT:<br>Blessed Carlo Actutis School |                       |                     |
| PROJECT No:<br>VE240753                  | DATE:<br>October 2024 |                     |
| SCALE:<br>NTS                            | DRAWN:<br>PS          | DWG No:<br>Figure 3 |



KEY:

DO NOT SCALE



Van Elle Limited  
Kirkby Lane, Pinxton  
Nottinghamshire  
NG16 6JA

Tel: 01773 580580  
Fax: 01773 862100

TITLE:

Proposed New Layout

PROJECT:

Blessed Carlo Actutis School

PROJECT No:

VE240753

DATE:

October 2024

SCALE:

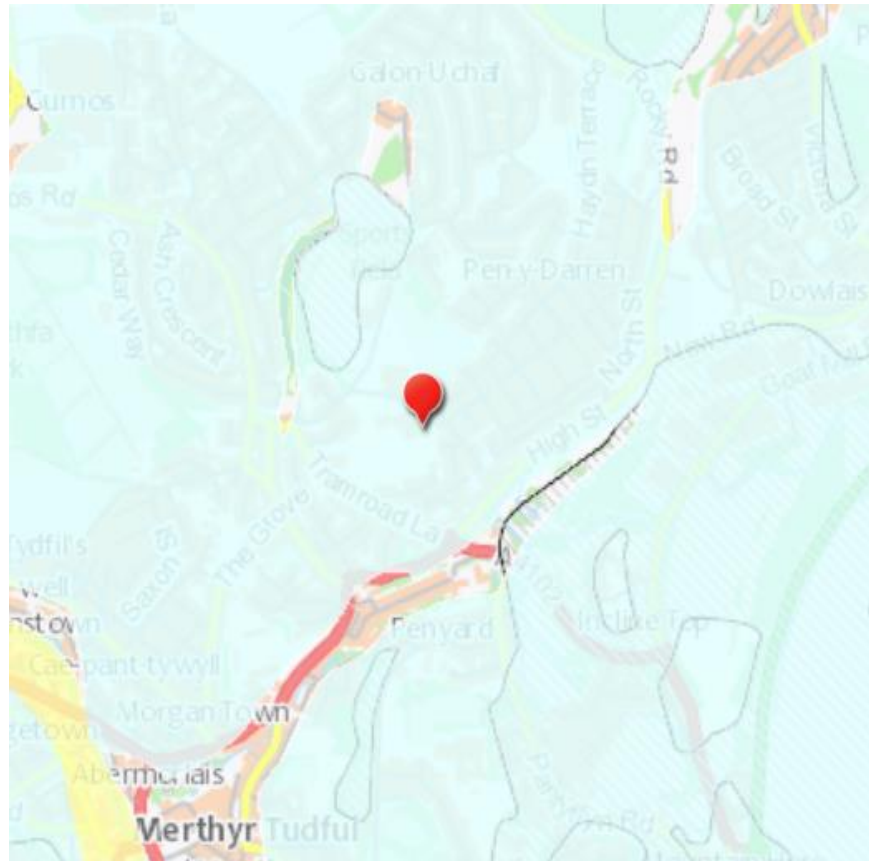
NTS

DRAWN:

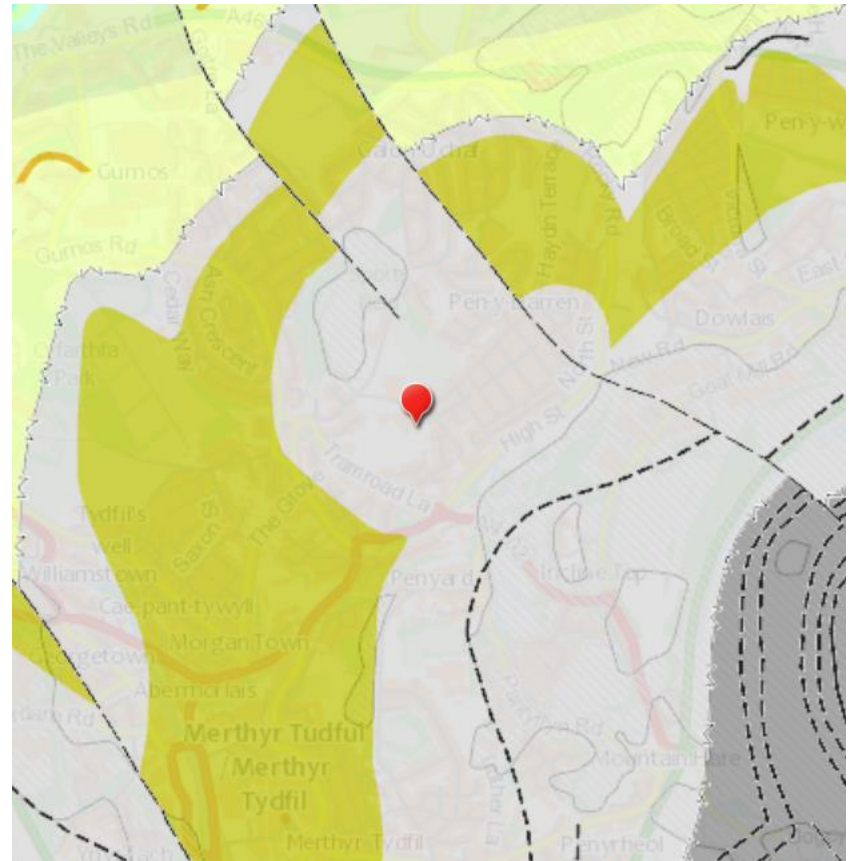
PS

DWG No:

Figure 4



**Glacial Till - Diamicton**



**South Wales Lower Coal Measures Formation**



KEY:



Van Elle Limited  
Kirkby Lane, Pinxton  
Nottinghamshire  
NG16 6JA

Tel: 01773 580580  
Fax: 01773 862100

TITLE:

Extract from Geoindex

PROJECT:

Blessed Carlo Actutis School

PROJECT No:

VE240753

DATE:

October 2024

SCALE:

NTS

DRAWN:

PS

DWG No:

Figure 5

DO NOT SCALE



TWO-FEET-NINE GROUP (2-FT-9)  
 DRIVER (Dr)  
 FEET (U6-FT) No.1 YARD (No.1Yd)  
 SIX-FEET (6-FT)  
 LOWER SIX-FEET (L6-FT)  
 RED  
 MNE-FEET (9-FT)  
 BUTE (Bu)  
 — — — Amman Marine Band  
 No.2 YARD (No.2 Yd)  
 SEVEN-FEET (7-FT)  
 FIVE-FEET (5-FT)  
 GELLIDEG (Ge)

GARW

Farewell Rock

SUN

FOUR-FEET (4-FT)

UPPER SEVEN-FEET  
 LOWER SEVEN-FEET

Site  
 Zone



KEY:



Approximate Site Location



**VAN ELLE**

Total Foundation Solutions

Van Elle Limited  
 Kirkby Lane, Pinxton  
 Nottinghamshire  
 NG16 6JA

Tel: 01773 580580

Fax: 01773 862100

TITLE:

BGS Sheet 213 Merthyr Tydfil

PROJECT:

Blessed Carlo Actutis School

PROJECT No:

VE240753

DATE:

October 2024

SCALE:

NTS

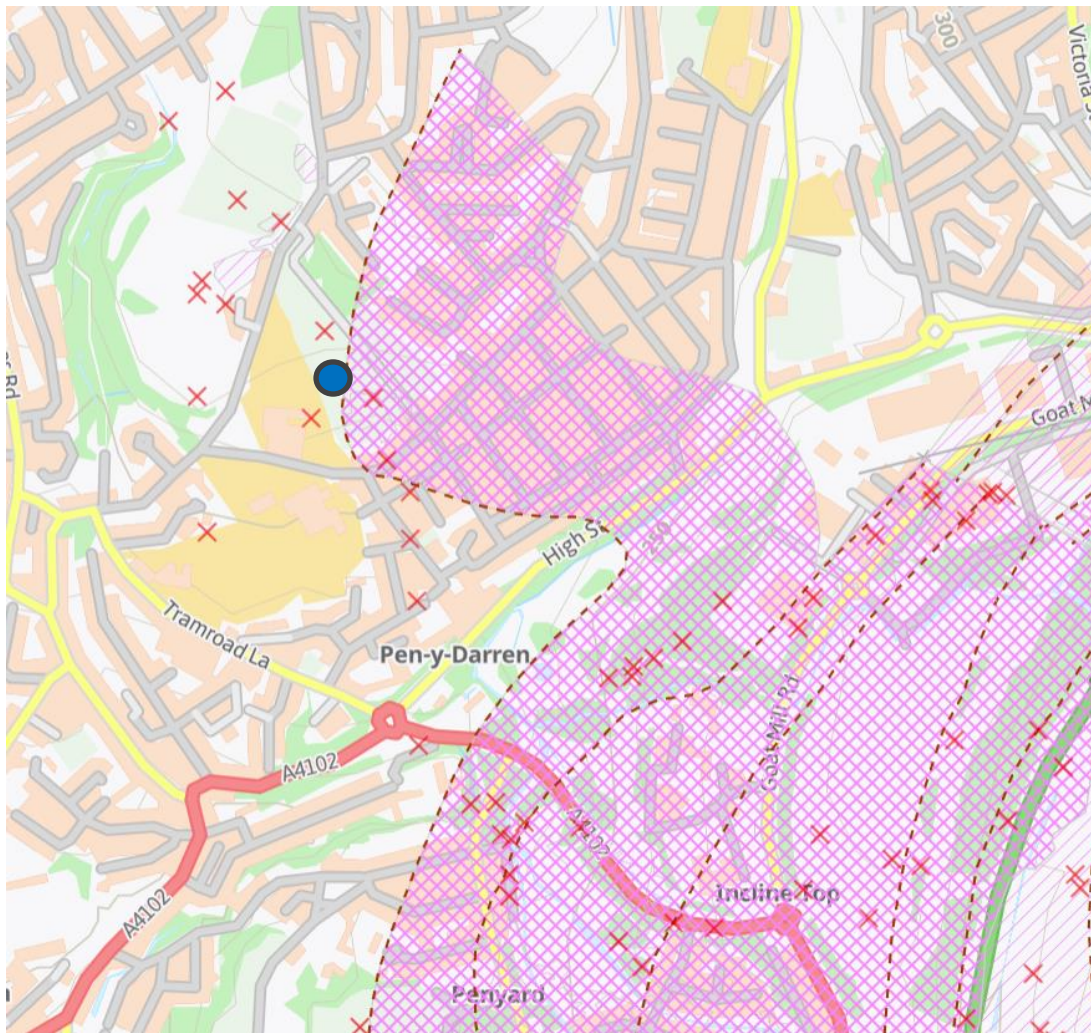
DRAWN:

PS

DWG No:

Figure 6

DO NOT SCALE



KEY:

DO NOT SCALE



Van Elle Limited  
Kirkby Lane, Pinxton  
Nottinghamshire  
NG16 6JA

Tel: 01773 580580  
Fax: 01773 862100

TITLE:

Extract From TCA Mapping

PROJECT:

Blessed Carlo Actutis School

PROJECT No:

VE240753

DATE:

October 2024

SCALE:

NTS

DRAWN:

PS

DWG No:

Figure 7

## **Appendix B**

### **TCA Permit**





The Coal  
Authority

# Permit to Enter or Disturb Coal Authority Interests

**Permit 28428**

**Name and Address of Permit Holder:**

Merthyr Tydfil County Borough Council,  
Merthyr Tydfil  
Civic Centre  
Castle Street  
Merthyr Tydfil  
CF47 8AN

**Site Location:**

Blessed Carlo Acutis Catholic School  
Gwaunfarren Road  
Merthyr Tydfil  
CF47 9AP

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

***Treatment of shallow mine workings by drilling and grouting to 30m on 6m x 6m grid, probe drilling to locate one mine entry (305207-009), treatment of mine entry by pressure grouting*** 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, CH<sub>4</sub>, CO<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>S 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: 17/06/2024

For and on behalf of The Coal Authority

Nominated Representative: Jake Morris, Permitting Manager;  
The Coal Authority, Permitting Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG  
Tel: 01623 637450; E-Mail: [permissions@coal.gov.uk](mailto:permissions@coal.gov.uk)



The Coal  
Authority

# Granted Permit Boundary

**Permit Ref: 28428**

Permit Boundary:



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## **Appendix C**

### **Drill and Grout Data**



[illegible]

|      |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
|------|-----------|----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-------------------|-------------|------|-----|--|-------|------|--------|-----------|--|
| K 33 | 07-Aug-24 | 90 | 30.0 | 7.5  | 9.40  | 10.40 | 18.80 | 19.50 |       |       |       |       |       |       | 22.50 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.900 | 9.00 | 9.90   | ST - Full |  |
| K 35 | 06-Aug-24 | 90 | 30.0 | 8.0  | 9.00  | 10.00 | 18.80 | 19.80 |       |       |       |       |       |       | 23.00 | 25.50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.70  | 7.00 | 7.70   | ST - Full |  |
| K 37 | 06-Aug-24 | 90 | 30.0 | 8.4  | 9.50  | 10.30 | 18.50 | 19.40 |       |       |       |       |       |       | 24.50 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 10.0 |     |  | 0.70  | 7.00 | 7.70   | ST - Full |  |
| K 39 | 06-Aug-24 | 90 | 30.0 | 9.0  |       |       | 18.40 | 19.20 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| K 41 | 06-Aug-24 | 90 | 30.0 | 9.0  |       |       | 18.40 | 19.40 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| K 43 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| K 45 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| K 47 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| K 49 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| K 51 | 30-Jul-24 | 90 | 30.0 | 12.0 | 12.00 | 13.00 | 15.80 | 16.80 | 27.50 | 28.50 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 12.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| K 53 | 30-Jul-24 | 90 | 30.0 | 12.0 |       |       | 15.20 | 16.20 |       |       |       |       |       |       | 25.00 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 12.0 |     |  | 0.100 | 1.00 | 1.10   |           |  |
| K 55 | 30-Jul-24 | 90 | 30.0 | 11.8 |       |       | 14.80 | 15.80 | 26.50 | 28.00 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 12.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| K 57 | 30-Jul-24 | 90 | 30.0 | 10.8 |       |       | 14.70 | 15.80 | 27.50 | 29.00 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 12.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| K 59 | 30-Jul-24 | 90 | 30.0 | 10.0 |       |       | 16.50 | 15.50 | 26.00 | 27.50 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| K 61 | 30-Jul-24 | 90 | 30.0 | 10.0 |       |       | 14.40 | 15.60 | 25.50 | 30.00 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
|      |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
|      |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| L 20 | 05-Sep-24 | 90 | 30.0 | 7.0  | 7.30  | 8.30  | 14.00 | 15.00 |       |       |       |       |       |       | 24.00 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.600 | 6.00 | 6.60   |           |  |
| L 22 | 05-Sep-24 | 90 | 30.0 | 7.5  | 8.00  | 9.00  | 15.00 | 16.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 24 | 05-Sep-24 | 90 | 30.0 | 8.0  | 8.40  | 9.40  | 15.00 | 16.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 26 | 05-Sep-24 | 90 | 30.0 | 8.0  | 8.5   | 9.50  | 13.00 | 14.00 | 18.50 | 19.50 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 28 | 04-Sep-24 | 90 | 30.0 | 8.9  | 8.90  | 9.80  | 12.10 | 13.10 | 18.40 | 19.40 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 30 | 21-Aug-24 | 90 | 30.0 | 7.8  | 8.50  | 9.40  | 20.00 | 21.00 |       |       |       |       |       |       | 24.00 | 28.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.500 | 5.00 | 5.50   |           |  |
| L 32 | 21-Aug-24 | 90 | 30.0 | 8.0  | 8.80  | 9.80  | 19.50 | 20.50 |       | 25.50 | 28.00 |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal / Soft Grout | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 34 | 21-Aug-24 | 90 | 30.0 | 8.0  | 8.60  | 9.50  | 19.70 | 20.70 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 36 | 21-Aug-24 | 90 | 30.0 | 8.3  | 8.70  | 9.70  | 19.40 | 20.40 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 38 | 20-Aug-24 | 90 | 30.0 | 8.5  | 9.00  | 10.00 | 19.00 | 20.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| L    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| L    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| L 50 | 01-Aug-24 | 90 | 30.0 | 11.0 |       |       | 15.00 | 16.00 | 27.00 | 28.10 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 12.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| L 52 | 01-Aug-24 | 90 | 30.0 | 11.4 |       |       | 15.00 | 16.00 |       |       |       |       |       |       | 25.00 | 26.50 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 12.0 |     |  | 0.080 | 0.80 | 0.88   |           |  |
|      |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
|      |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| M 13 | 09-Sep-24 | 90 | 30.0 | 4.9  | 5.90  | 6.90  | 8.70  | 9.70  | 11.00 | 12.00 | 21.00 | 22.00 | 22.00 | 22.00 | 22.00 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 6.0  |     |  | 0.200 | 2.00 | 2.20   |           |  |
| M 15 | 09-Sep-24 | 90 | 30.0 | 6.0  | 7.00  | 8.00  | 10.00 | 11.00 | 20.60 | 21.60 | 25.00 | 27.00 |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   | Coal / Soft | Full | 8.0 |  |       | 0.03 | 0.30   | 0.33      |  |
| M 17 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| M 19 | 29-Aug-24 | 90 | 30.0 | 6.8  | 7.40  | 8.40  | 12.90 | 13.90 |       | 25.50 | 28.00 |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal / Soft Fill  | Poor        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| M 21 | 29-Aug-24 | 90 | 30.0 | 7.0  | 8.00  | 9.00  | 13.40 | 14.40 |       |       |       |       | 25.00 | 27.50 |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.900 | 9.00 | 9.90   | ST - Full |  |
| M 23 | 29-Aug-24 | 90 | 30.0 | 7.0  | 7.40  | 8.40  | 11.50 | 12.50 |       |       |       |       | 25.00 | 28.00 |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.500 | 5.00 | 5.50   | ST - Full |  |
| M 25 | 29-Aug-24 | 90 | 30.0 | 7.4  | 9.30  | 10.30 | 13'8  | 14.80 | 19.60 | 20.60 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| M 27 | 16-Aug-24 | 90 | 31.0 | 9.0  | 10.00 | 11.00 | 20.00 | 21.00 |       |       |       |       |       |       | 26.00 | 30.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 10.0 |     |  | 0.700 | 7.00 | 7.70   | ST - Full |  |
| M 29 | 09-Aug-24 | 90 | 30.0 | 7.0  | 8.50  | 9.50  | 19.50 | 20.40 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| M 31 | 09-Aug-24 | 90 | 30.0 | 7.5  | 8.50  | 9.40  | 18.90 | 20.00 |       |       |       |       |       |       | 25.00 | 28.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.500 | 5.00 | 5.50   | ST - Full |  |
| M 33 | 09-Aug-24 | 90 | 30.0 | 7.5  | 8.50  | 9.50  | 19.00 | 20.00 |       |       |       |       |       |       | 23.00 | 28.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 8.0  |     |  | 0.500 | 5.00 | 5.50   | ST - Full |  |
| M 35 | 08-Aug-24 | 90 | 30.0 | 8.5  | 9.00  | 10.00 | 19.00 | 20.00 |       |       |       |       |       |       | 24.00 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 10.0 |     |  | 0.400 | 4.00 | 4.40   | ST - Full |  |
| M 37 | 08-Aug-24 | 90 | 30.0 | 8.5  | 10.00 | 11.00 | 18.70 | 19.50 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| M 39 | 08-Aug-24 | 90 | 30.0 | 8.5  | 9.30  | 10.20 | 18.50 | 19.50 |       |       |       |       |       |       | 24.50 | 27.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 10.0 |     |  | 0.03  | 0.30 | 0.33   |           |  |
| M 41 | 08-Aug-24 | 90 | 30.0 | 8.0  | 8.50  | 10.00 | 18.50 | 19.50 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Coal Only         | Full        | 8.0  |     |  | 0.03  | 0.30 | 0.33   |           |  |
| M 43 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| M 45 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| M 47 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| M 49 |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                   |             |      |     |  |       |      |        |           |  |
| M 51 | 29-Jul-24 | 90 | 35.0 | 11.8 | 12.00 | 13.00 | 17.00 | 18.00 |       |       |       |       |       |       | 27.00 | 28.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Various           | Lost        | 12.0 |     |  | 0.600 | 6.00 | 6.60</ |           |  |

|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
|------|-----------|----|------|------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|--|--|--|--|-------------------|------|------|--|-------|-------|-------|
| O 33 | 09-Aug-24 | 90 | 33.0 | 7.8  | 11.00 | 11.80 | 20.00 | 21.00 |       |       |  |       | 25.00 | 32.00 |       |  |  |  |  | Various           | Lost | 8.0  |  | 0.700 | 7.00  | 7.70  |
| O 35 | 09-Aug-24 | 90 | 33.0 | 8.0  | 10.20 | 11.00 | 21.00 | 22.00 |       |       |  |       | 25.00 | 31.50 |       |  |  |  |  | Various           | Lost | 8.0  |  | 1.000 | 10.00 | 11.00 |
| O 37 | 09-Aug-24 | 90 | 30.0 | 8.0  | 9.00  | 10.00 | 18.50 | 19.40 |       |       |  |       | 24.00 | 27.00 |       |  |  |  |  | Various           | Lost | 8.0  |  | 0.900 | 9.00  | 9.90  |
| O 39 | 09-Aug-24 | 90 | 30.0 | 8.4  | 8.40  | 9.40  | 18.10 | 19.10 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| O 41 | 09-Aug-24 | 90 | 30.0 | 8.5  | 9.00  | 9.90  | 18.00 | 19.00 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| O 43 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| O 45 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| O 47 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| O 49 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| O 51 | 31-Jul-24 | 90 | 30.0 | 11.5 |       |       | 17.00 | 18.00 | 27.00 | 28.10 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
| O 53 | 31-Jul-24 | 90 | 30.0 | 11.6 |       |       | 17.10 | 18.10 |       |       |  |       | 19.00 | 20.20 |       |  |  |  |  | Various           | Lost | 12.0 |  | 0.100 | 1.00  | 1.10  |
| O 55 | 31-Jul-24 | 90 | 30.0 | 11.0 |       |       | 16.80 | 18.00 |       |       |  |       | 19.20 | 20.20 |       |  |  |  |  | Various           | Lost | 12.0 |  | 0.100 | 1.00  | 1.10  |
| O 57 | 31-Jul-24 | 90 | 30.0 | 10.5 |       |       | 15.50 | 16.50 | 26.00 | 27.50 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
| O 59 | 31-Jul-24 | 90 | 30.0 | 10.0 |       |       | 14.90 | 15.90 | 26.00 | 27.00 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| O 61 | 31-Jul-24 | 90 | 30.0 | 10.0 |       |       | 15.00 | 16.00 | 26.50 | 27.60 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 22 | 09-Sep-24 | 90 | 30.0 | 6.5  | 7.50  | 8.50  | 14.00 | 15.00 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| P 24 | 09-Sep-24 | 90 | 30.0 | 6.8  | 7.40  | 8.40  | 13.50 | 14.40 |       |       |  | 25.00 | 27.00 |       |       |  |  |  |  | Coal / Soft Grout | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| P 26 | 06-Sep-24 | 90 | 30.0 | 7.5  | 8.00  | 9.00  | 12.50 | 13.50 |       |       |  | 25.00 | 27.00 |       |       |  |  |  |  | Coal / Soft Grout | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| P 28 | 06-Sep-24 | 90 | 30.0 | 6.8  | 7.40  | 8.40  | 13.00 | 14.00 |       |       |  | 24.00 | 27.00 |       |       |  |  |  |  | Coal / Soft Grout | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| P 30 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 32 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 34 | 22-Aug-24 | 90 | 30.0 | 8.5  | 9.00  | 10.00 | 19.90 | 20.90 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| P 36 | 23-Aug-24 | 90 | 30.0 | 8.5  | 9.50  | 10.50 | 19.80 | 20.80 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| P 38 | 23-Aug-24 | 90 | 30.0 | 8.8  | 9.50  | 10.50 | 20.00 | 21.00 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| P 40 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 42 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 44 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 46 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 48 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| P 50 | 01-Aug-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.20 | 19.20 |       |       |  |       | 21.30 | 24.00 |       |  |  |  |  | Various           | Lost | 12.0 |  | 0.100 | 1.00  | 1.10  |
| P 52 | 01-Aug-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.00 | 19.00 |       |       |  |       | 21.30 | 23.80 |       |  |  |  |  | Various           | Lost | 12.0 |  | 0.060 | 0.60  | 0.66  |
| P 54 | 01-Aug-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.30 | 19.30 |       |       |  |       | 21.70 | 25.70 |       |  |  |  |  | Various           | Lost | 12.0 |  | 0.100 | 1.00  | 1.10  |
| P 56 | 01-Aug-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.60 | 19.60 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
| P 58 | 01-Aug-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.60 | 19.60 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| Q 21 | 02-Sep-24 | 90 | 30.0 | 8.0  | 8.00  | 9.00  | 13.40 | 14.40 | 20.10 | 21.10 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| Q 23 | 30-Aug-24 | 90 | 30.0 | 7.9  | 9.40  | 10.40 | 15.00 | 16.00 | 21.00 | 21.90 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| Q 25 | 30-Aug-24 | 90 | 30.0 | 8.0  | 9.00  | 10.00 | 15.50 | 16.40 | 20.50 | 21.50 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| Q 27 | 16-Aug-24 | 90 | 30.0 | 10.0 | 10.40 | 11.50 | 13.00 | 14.00 | 20.80 | 21.80 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 29 | 13-Aug-24 | 90 | 30.0 | 9.5  | 10.40 | 11.40 | 21.00 | 22.00 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 31 | 13-Aug-24 | 90 | 30.0 | 9.5  | 10.50 | 11.50 | 21.00 | 22.00 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 33 | 13-Aug-24 | 90 | 30.0 | 11.0 | 12.00 | 12.80 | 20.50 | 21.50 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 35 | 13-Aug-24 | 90 | 30.0 | 11.0 | 12.00 | 13.00 | 20.50 | 21.50 |       |       |  | 25.00 | 32.00 |       |       |  |  |  |  | Coal / Broken     | Lost | 12.0 |  | 0.200 | 2.00  | 2.20  |
| Q 37 | 13-Aug-24 | 90 | 30.0 | 11.0 | 12.00 | 12.80 | 20.00 | 21.00 |       |       |  | 24.00 | 28.00 |       |       |  |  |  |  | Coal / Broken     | Lost | 12.0 |  | 0.400 | 4.00  | 4.40  |
| Q 39 | 13-Aug-24 | 90 | 30.0 | 9.5  | 10.50 | 11.50 | 19.00 | 20.00 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 41 | 09-Aug-24 | 90 | 30.0 | 10.0 | 11.00 | 11.80 | 18.80 | 19.80 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 43 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| Q 45 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| Q 47 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| Q 49 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| Q 51 | 29-Jul-24 | 90 | 35.0 | 10.0 | 10.00 | 10.80 | 17.00 | 18.00 |       |       |  | 26.00 | 27.00 |       |       |  |  |  |  | Coal / Broken     | Lost | 10.0 |  | 0.500 | 5.00  | 5.50  |
| Q 53 | 29-Jul-24 | 90 | 35.0 | 10.0 | 10.00 | 11.00 | 17.30 | 18.30 |       |       |  | 21.00 | 24.00 | 27.20 | 30.00 |  |  |  |  | Coal / Broken     | Lost | 10.0 |  | 0.500 | 5.00  | 5.50  |
| Q 55 | 29-Jul-24 | 90 | 35.0 | 11.0 |       |       | 17.80 | 18.80 |       |       |  | 21.20 | 24.30 |       |       |  |  |  |  | Coal / Broken     | Lost | 12.0 |  | 0.500 | 5.00  | 5.50  |
| Q 57 | 29-Jul-24 | 90 | 35.0 | 11.0 | 11.00 | 12.00 | 17.50 | 18.60 |       |       |  | 22.00 | 24.60 |       |       |  |  |  |  | Coal / Broken     | Lost | 12.0 |  | 0.500 | 5.00  | 5.50  |
| Q 59 | 30-Jul-24 | 90 | 30.0 | 10.0 | 10.00 | 11.00 | 17.20 | 18.20 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
| Q 61 | 30-Jul-24 | 90 | 30.0 | 10.0 | 10.00 | 11.00 | 17.40 | 18.40 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 10.0 |  | 0.03  | 0.30  | 0.33  |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| R 34 | 23-Aug-24 | 90 | 30.0 | 8.4  | 9.40  | 10.50 | 20.00 | 21.00 |       |       |  | 24.50 | 28.00 |       |       |  |  |  |  | Coal / Soft Grout | Poor | 10.0 |  | 0.080 | 0.80  | 0.88  |
| R 36 | 22-Aug-24 | 90 | 30.0 | 8.0  | 8.90  | 9.90  | 19.80 | 20.80 |       |       |  |       | 23.40 | 27.00 |       |  |  |  |  | Coal / Broken     | Lost | 8.0  |  | 0.300 | 3.00  | 3.30  |
| R 38 | 22-Aug-24 | 90 | 30.0 | 8.0  | 8.50  | 9.50  | 19.50 | 20.50 |       |       |  |       | 24.00 | 28.50 |       |  |  |  |  | Coal / Broken     | Lost | 8.0  |  | 0.200 | 2.00  | 2.20  |
| R 40 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| R 48 |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| R 50 | 31-Jul-24 | 90 | 30.0 | 11.0 |       |       | 18.00 | 19.00 |       |       |  |       | 21.30 | 24.30 |       |  |  |  |  | Coal / Broken     | Lost | 12.0 |  | 0.100 | 1.00  | 1.10  |
| R 52 | 31-Jul-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.20 | 19.20 |       |       |  |       | 21.70 | 24.00 |       |  |  |  |  | Coal / Broken     | Lost | 12.0 |  | 0.100 | 1.00  | 1.10  |
| R 54 | 31-Jul-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.50 | 19.50 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
| R 56 | 31-Jul-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.50 | 19.50 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
| R 58 | 01-Aug-24 | 90 | 30.0 | 11.0 | 11.00 | 12.00 | 18.60 | 19.50 |       |       |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 12.0 |  | 0.03  | 0.30  | 0.33  |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
|      |           |    |      |      |       |       |       |       |       |       |  |       |       |       |       |  |  |  |  |                   |      |      |  |       |       |       |
| S 23 | 02-Sep-24 | 90 | 30.0 | 8.0  | 8.90  | 9.80  | 14.50 | 15.50 | 19.80 | 20.80 |  |       |       |       |       |  |  |  |  | Coal Only         | Full | 8.0  |  | 0.03  | 0.30  | 0.33  |
| S 25 | 02-Sep-24 | 90 | 30.0 | 8.0  | 8.80  | 9.80  | 15.40 | 16.40 | 20.50 | 21.50 |  |       |       |       |       |  |  |  |  | Coal Only         |      |      |  |       |       |       |

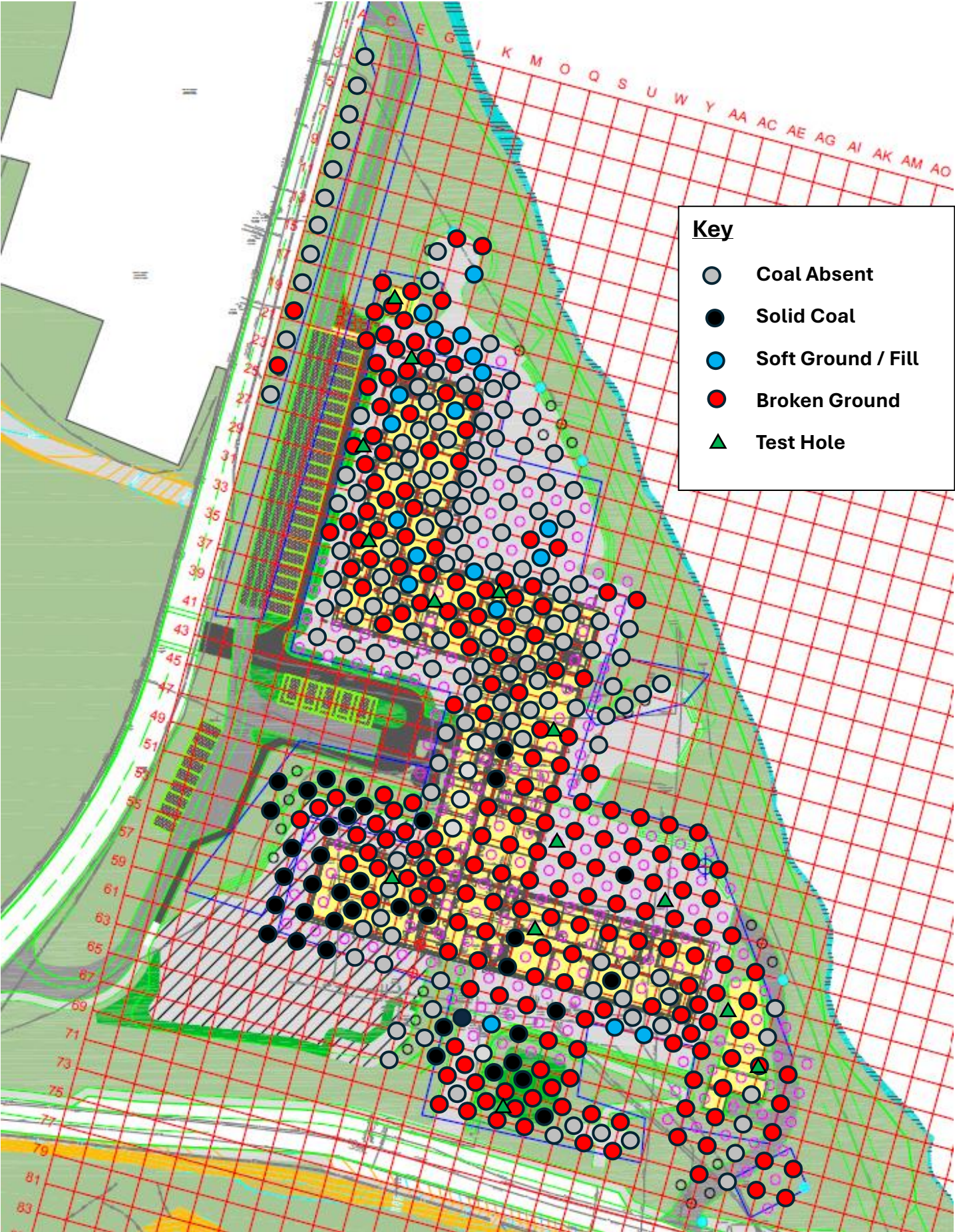
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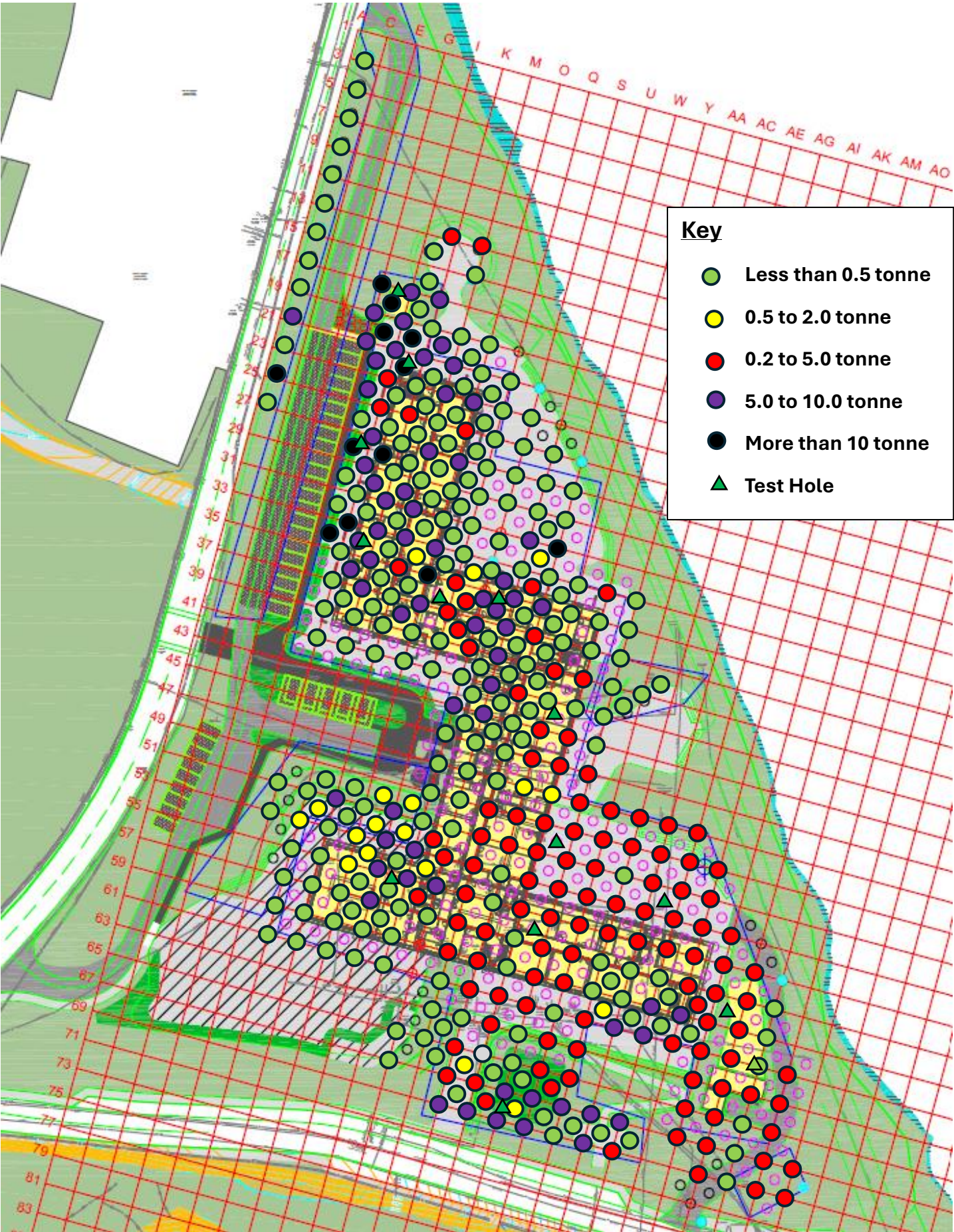
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
|----------|-----------|----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|--|--|--|--|--|--|-----------|--------------|------|------|--|-------|------|------|-----------|
| AE 53    | 12-Jul-24 | 90 | 30.0 | 9.0  | 9.00  | 10.00 | 12.00 | 13.00 | 19.00 | 20.60 |       |       | 24.00 | 25.30 | 26.30 | 29.00 |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 10.0 |      |  | 0.400 | 4.00 | 4.40 | ST - Full |
| AE 55    | 12-Jul-24 | 90 | 30.0 | 9.0  | 9.00  | 10.00 | 12.00 | 13.00 | 19.00 | 20.50 |       |       | 24.00 | 25.30 | 26.30 | 29.00 |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 10.0 |      |  | 0.40  | 4.00 | 4.40 |           |
| AE 57    | 19-Jul-24 | 90 | 30.0 | 9.0  | 9.50  | 10.50 | 15.40 | 16.20 | 20.00 | 21.00 |       |       | 23.50 | 25.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 10.0 |      |  | 0.400 | 4.00 | 4.40 |           |
| AE 59    | 22-Jul-24 | 90 | 30.0 | 9.0  | 9.50  | 10.50 | 15.50 | 16.50 |       |       | 24.00 | 25.00 | 20.00 | 22.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 10.0 |      |  | 0.380 | 3.80 | 4.18 |           |
| AE 61    | 22-Jul-24 | 90 | 30.0 | 9.0  | 9.50  | 10.40 | 15.50 | 16.40 | 20.50 | 22.00 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 10.0 |      |  | 0.03  | 0.30 | 0.33 |           |
| AE 63    | 17-Jul-24 | 90 | 30.0 | 11.0 | 18.00 | 20.50 |       |       |       |       |       |       | 22.50 | 25.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.200 | 2.00 | 2.20 |           |
| AE 65    | 17-Jul-24 | 90 | 30.0 | 11.0 | 18.00 | 20.00 |       |       |       |       |       |       | 22.00 | 25.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.200 | 2.00 | 2.20 |           |
| AE 67    | 16-Jul-24 | 90 | 30.0 | 12.0 | 17.50 | 19.50 |       |       |       |       |       |       | 21.50 | 24.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.500 | 5.00 | 5.50 | ST - Full |
| AE 69    | 17-Jul-24 | 90 | 30.0 | 10.0 | 14.00 | 15.00 |       |       |       |       | 19.00 | 20.00 | 23.00 | 25.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 10.0 |      |  | 0.500 | 5.00 | 5.50 |           |
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AF 38    | 16-Aug-24 | 90 | 30.0 |      | 10.6  | 12.60 | 13.60 | 19.80 | 20.80 |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           | Coal only    | Full | 12.0 |  |       | 0.03 | 0.30 | 0.33      |
| AF       |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AF       |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AF       |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AF 66    | 24-Jul-24 | 90 | 30.0 | 12.0 | 15.00 | 16.00 | 19.50 | 20.50 |       |       |       |       | 21.50 | 23.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.400 | 4.00 | 4.40 |           |
| AF 68    |           | 90 | 30.0 | 12.0 | 16.00 | 17.00 | 20.50 | 22.00 | 25.00 | 26.00 |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 12.0 |      |  | 0.03  | 0.30 | 0.33 |           |
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AG 47    | 12-Jul-24 | 90 | 30.0 | 7.0  | 7.00  | 8.00  | 11.00 | 12.00 | 18.00 | 19.00 |       |       | 23.60 | 25.00 | 27.00 | 29.00 |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 8.0  |      |  | 0.400 | 4.00 | 4.40 |           |
| AG 49    | 11-Jul-24 | 90 | 30.0 | 8.0  | 7.60  | 8.00  | 11.50 | 12.50 | 18.80 | 20.50 |       |       | 27.00 | 29.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 8.0  |      |  | 0.200 | 2.00 | 2.20 |           |
| AG 51    | 11-Jul-24 | 90 | 32.0 | 8.5  | 8.50  | 9.50  | 11.60 | 12.60 | 18.30 | 20.00 |       |       | 28.20 | 30.20 |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal Only | Full         | 10.0 |      |  | 0.03  | 0.30 | 0.33 |           |
| AG 53    | 10-Jul-24 | 90 | 30.0 | 10.5 | 12.00 | 13.00 | 18.80 | 20.60 |       |       |       |       | 26.50 | 28.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.300 | 3.00 | 3.30 |           |
| AG 55    | 10-Jul-24 | 90 | 30.0 | 10.5 | 11.80 | 13.00 | 18.80 | 19.80 |       |       |       |       | 26.30 | 28.30 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.200 | 2.00 | 2.20 |           |
| AG 57    | 15-Jul-24 | 90 | 30.0 | 11.0 | 13.50 | 14.50 | 19.00 | 20.50 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 12.0 |      |  | 0.03  | 0.30 | 0.33 |           |
| AG 59    | 12-Jul-24 | 90 | 30.0 | 12.0 | 14.00 | 15.00 | 18.00 | 20.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 12.0 |      |  | 0.03  | 0.30 | 0.33 |           |
| AG 61    | 15-Jul-24 | 90 | 30.0 | 13.5 | 15.50 | 16.50 |       |       |       |       | 25.00 | 27.00 | 21.00 | 23.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 14.0 |      |  | 0.300 | 3.00 | 3.30 |           |
| AG 63    | 16-Jul-24 | 90 | 30.0 | 12.0 | 18.50 | 20.00 | 21.50 | 23.00 |       |       |       |       | 25.00 | 27.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.300 | 3.00 | 3.30 |           |
| AG 65    | 16-Jul-24 | 90 | 30.0 | 12.0 | 18.50 | 20.00 | 21.00 | 22.50 |       |       |       |       | 24.50 | 26.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.200 | 2.00 | 2.20 |           |
| AG 67    | 16-Jul-24 | 90 | 30.0 | 11.0 | 18.00 | 20.00 | 21.00 | 22.50 |       |       |       |       | 24.00 | 26.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.500 | 5.00 | 5.50 |           |
| AG 69    | 15-Jul-24 | 90 | 30.0 | 11.0 | 17.00 | 19.00 |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 12.0 |      |  | 0.03  | 0.30 | 0.33 |           |
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AH 58    | 25-Jul-24 | 90 | 30.0 | 12.0 | 14.50 | 15.50 | 20.00 | 22.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AH 60    | 25-Jul-24 | 90 | 30.0 | 11.8 | 14.00 | 16.80 |       |       |       |       | 22.00 | 23.50 | 20.00 | 22.00 |       |       |  |  |  |  |  |  |  |  |  |  |  |           | Coal only    | Full | 12.0 |  |       | 0.03 | 0.30 | 0.33      |
| AH 62    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.050 | 0.50 | 0.55 |           |
| AH 64    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AH 66    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AH 68    | 24-Jul-24 | 90 | 30.0 | 11.5 | 15.80 | 16.80 | 20.00 | 21.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           | Coal only    | Full | 12.0 |  |       | 0.03 | 0.30 | 0.33      |
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AI 47    | 12-Jul-24 | 90 | 30.0 | 7.0  | 7.00  | 8.00  | 11.00 | 12.00 | 18.00 | 19.00 |       |       | 23.60 | 25.00 | 27.00 | 29.00 |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 8.0  |      |  | 0.300 | 3.00 | 3.30 |           |
| AI 49    | 11-Jul-24 | 90 | 30.0 | 8.0  | 11.50 | 12.50 | 19.00 | 20.40 |       |       |       |       | 26.70 | 28.20 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 8.0  |      |  | 0.400 | 4.00 | 4.40 |           |
| AI 51    | 11-Jul-24 | 90 | 30.0 | 9.0  | 9.00  | 10.00 | 12.00 | 13.00 | 18.60 | 20.00 |       |       | 22.70 | 23.70 | 27.00 | 29.00 |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 10.0 |      |  | 0.410 | 4.10 | 4.51 |           |
| AI 53    | 10-Jul-24 | 90 | 30.0 | 10.5 | 12.00 | 13.00 | 18.80 | 20.60 |       |       |       |       | 26.50 | 28.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.400 | 4.00 | 4.40 |           |
| AI 55    | 10-Jul-24 | 90 | 30.0 | 10.5 | 12.00 | 13.00 | 19.00 | 20.20 |       |       |       |       | 26.50 | 28.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.20  | 2.00 | 2.20 |           |
| AI 57    | 15-Jul-24 | 90 | 30.0 | 11.0 | 13.00 | 14.70 | 19.00 | 20.50 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 12.0 |      |  | 0.03  | 0.30 | 0.33 |           |
| AI 59    | 12-Jul-24 | 90 | 30.0 | 12.5 | 14.50 | 15.50 | 18.50 | 20.00 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Coal only | Full         | 14.0 |      |  | 0.03  | 0.30 | 0.33 |           |
| AI 61    | 15-Jul-24 | 90 | 30.0 | 13.0 |       |       | 20.00 | 21.50 |       |       | 25.00 | 27.00 |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Poor         | 14.0 |      |  | 0.800 | 8.00 | 8.80 | ST - Full |
| AI 62    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AI #REF! |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AI 67    | 16-Jul-24 | 90 | 30.0 | 12.0 | 18.00 | 20.00 | 21.50 | 22.50 |       |       |       |       | 24.50 | 27.00 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 12.0 |      |  | 0.500 | 5.00 | 5.50 |           |
| AI 69    | 15-Jul-24 | 90 | 31.0 | 13.5 | 14.00 | 15.00 | 20.50 | 22.00 |       |       | 23.50 | 25.00 | 26.50 | 29.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 14.0 |      |  | 0.600 | 6.00 | 6.60 |           |
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AJ 60    | 25-Jul-24 | 90 | 30.0 | 11.5 | 13.50 | 14.50 |       |       |       |       | 21.50 | 23.00 |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           | Coal / Grout | Full | 12.0 |  |       | 0.03 | 0.30 | 0.33      |
| AJ 62    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AJ 64    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AJ 66    |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AJ 68    | 24-Jul-24 | 90 | 30.0 | 12.0 | 16.00 | 16.80 | 20.50 | 21.50 |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           | Coal only    | Full | 12.0 |  |       | 0.03 | 0.30 | 0.33      |
|          |           |    |      |      |       |       |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |
| AK 47    | 11-Jul-24 | 90 | 30.0 | 7.0  | 7.00  | 8.00  | 11.00 | 12.00 | 18.00 | 19.20 |       |       | 26.80 | 28.80 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 8.0  |      |  | 0.300 | 3.00 | 3.30 |           |
| AK 49    | 11-Jul-24 | 90 | 30.0 | 7.5  | 7.50  | 9.00  | 11.50 | 12.50 | 19.00 | 20.30 |       |       | 26.50 | 28.50 |       |       |  |  |  |  |  |  |  |  |  |  |  | Various   | Lost         | 8.0  |      |  | 0.30  | 3.00 | 3.30 |           |
| AK 51    | 11-Jul-24 | 90 | 30.0 | 9.0  | 9.00  | 10.00 | 12.00 | 13.00 | 18.60 | 20.10 |       |       | 22.70 | 23.70 |       |       |  |  |  |  |  |  |  |  |  |  |  |           |              |      |      |  |       |      |      |           |

[illegible]

[illegible]



Grout Summary at – Northern Area



## **Appendix D**

### **Cube Test Results**



Unit 11  
Cowley Mill Trading Estate  
Longbridge Way  
Uxbridge  
Middlesex  
UB8 2YG  
United Kingdom  
Tel: +44(0) 1895 235235

## CONCRETE TEST CUBE REPORT



Date: 09/08/2024

Report no: UXB27406674\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No. | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|-------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU079413         | 27406674 | 3           | 11/07/2024 | 1100      | 17/07/2024                  | 08/08/2024  | 28       | 100x100x100   | 1320                      | 22.2            | 2.2                                    | not given                            |
| Location: END     |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
- 5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

The results relate to the items tested only. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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Unit 11  
Cowley Mill Trading Estate  
Longbridge Way  
Uxbridge  
Middlesex  
UB8 2YG  
United Kingdom  
Tel: +44(0) 1895 235235

## CONCRETE TEST CUBE REPORT



Date: 15/08/2024

Report no: UXB27413592\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No.                    | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|--------------------------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU079414BE                          | 27413592 |             | 16/07/2024 | 1100      | 25/07/2024                  | 13/08/2024  | 28       | 100x100x100   | 1130                      | 10.2            | 1.0                                    | not given                            |
| Location: ENID                       |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: LOW STRENGTH GROUT 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
- 5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

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Middlesex  
UB8 2YG  
United Kingdom  
Tel: +44(0) 1895 235235

## CONCRETE TEST CUBE REPORT



Date: 22/08/2024

Report no: UXB27413596\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No.                    | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|--------------------------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU079415BE                          | 27413596 |             | 23/07/2024 | 1300      | 25/07/2024                  | 20/08/2024  | 28       | 100x100x100   | 1170                      | 12.2            | 1.2                                    | not given                            |
| Location: SHAFT                      |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: LOW STRENGTH GROUT 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
- 5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

Unit 11  
Cowley Mill Trading Estate  
Longbridge Way  
Uxbridge  
Middlesex  
UB8 2YG  
United Kingdom  
Tel: +44(0) 1895 235235

## CONCRETE TEST CUBE REPORT



Date: 27/08/2024

Report no: UXB27422990\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No. | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|-------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU236776         | 27422990 | B           | 25/07/2024 |           | 06/08/2024                  | 22/08/2024  | 28       | 100x100x100   | 1200                      | 17.4            | 1.7                                    | not given                            |
| Location: GRID    |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| SOU236776         | 27422991 | C           | 25/07/2024 |           | 06/08/2024                  | 22/08/2024  | 28       | 100x100x100   | 1220                      | 15.9            | 1.6                                    | not given                            |
| Location: GRID    |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
- 5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

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UB8 2YG  
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## CONCRETE TEST CUBE REPORT



Date: 28/08/2024

Report no: UXB27422995\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No. | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|-------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU236777         | 27422995 | C           | 30/07/2024 | 1000      | 06/08/2024                  | 27/08/2024  | 28       | 100x100x100   | 1200                      | 20.4            | 2.0                                    | not given                            |
| Location: GRID    |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
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- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

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Cowley Mill Trading Estate  
Longbridge Way  
Uxbridge  
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UB8 2YG  
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Tel: +44(0) 1895 235235

## CONCRETE TEST CUBE REPORT



Date: 26/09/2024

Report no: UXB27450011\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No. | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|-------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU236703BE       | 27450011 |             | 27/08/2024 | 1000      | 05/09/2024                  | 24/09/2024  | 28       | 100x100x100   | 1290                      | 16.9            | 1.7                                    | not given                            |
| Location: GRID    |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| SOU236703BE       | 27450012 |             | 27/08/2024 | 1000      | 05/09/2024                  | 24/09/2024  | 28       | 100x100x100   | 1320                      | 17.7            | 1.8                                    | not given                            |
| Location: GRID    |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
- 5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

Unit 11  
Cowley Mill Trading Estate  
Longbridge Way  
Uxbridge  
Middlesex  
UB8 2YG  
United Kingdom  
Tel: +44(0) 1895 235235

## CONCRETE TEST CUBE REPORT



Date: 03/10/2024

Report no: UXB27450016\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No. | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|-------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU236704BE       | 27450016 |             | 03/09/2024 | 1000      | 05/09/2024                  | 01/10/2024  | 28       | 100x100x100   | 1290                      | 27.3            | 2.7                                    | not given                            |
| Location: GRID    |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1 |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
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- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Air Content determined in accordance with BS EN 12350-7:2019, Slump test carried out in accordance with BS EN 12350-2:2019

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD

The results relate to the items tested only. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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## CONCRETE TEST CUBE REPORT



Date: 10/10/2024

Report no: UXB27455478\_01

Client: VAN ELLE LTD

Scheme: 240753 Galon Uchaf Road, Merthyr Tafil, CF47 9AP

Contract no: 51080643

| Request Sheet No.         | Lab Ref. | Client Ref. | Date Made  | Time Made | Date Received in Laboratory | Date Tested | Age days | Dimensions mm | Density kg/m <sup>3</sup> | Failure Load kN | Compressive Strength N/mm <sup>2</sup> | Specified Strength N/mm <sup>2</sup> |
|---------------------------|----------|-------------|------------|-----------|-----------------------------|-------------|----------|---------------|---------------------------|-----------------|----------------------------------------|--------------------------------------|
| SOU236705                 | 27455478 | 3           | 10/09/2024 |           | 13/09/2024                  | 08/10/2024  | 28       | 100x100x100   | 1350                      | 17.8            | 1.8                                    | not given                            |
| Location: GRID TEST HOURS |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |
| Mix details: 10-1         |          |             |            |           |                             |             |          |               |                           |                 |                                        |                                      |

The following apply unless otherwise stated under Remarks.

- 1) Laboratory curing range 18°-22°C.
- 2) Cube appearance as received satisfactory.
- 3) Test moisture condition and density saturated.
- 4) Cube failure normal. Concrete appearance normal.
- 5) Volume determined by measurement or designated size. Any fins removed by abrasive stone.
- 6) Laboratory curing conditions cannot be assured during tank cleaning.
- 7) Certificate of sampling not received. Certificate of making and curing not received.
- 8) Rate of Loading 0.4 to 0.8 N/mm<sup>2</sup> per sec.

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

Signed

Magfur Alauddin - Technical Manager

for and on behalf of SOCOTEC UK Limited

Issued to: VAN ELLE LTD