Environmental
Geotechnical
Specialists

RGS

PHASE 4

VALIDATION REPORT

job number	C3012/23/E/6049
date	06.05.25
site address	Land off Manchester Road (Area 1) Linthwaite Huddersfield HD7 5QG
written by	R. Palmer
checked by	T. Merry
issued by	R. Palmer

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Please consider the environment before printing this report.

Phase 4: Gap Analysis Assessment & Validation

Location:	Land off Manchester Road (Area 1) Linthwaite, Huddersfield, West Yorkshire HD7 5QG	
For:	Highstone Building Services	
Report No.	C3012/23/E/6049	Report date: May 2025

For and on behalf of **Rogers Geotechnical Services Ltd**

Rob Palmer MSc FGS ACIEH
Engineering Director

Tobias Merry MSci (Hons), FGS
Geo-environmental Engineer

1. Introduction

The land associated with the Former Hoyle Ing Dyeworks, Manchester Road has now been developed by the construction of a residential apartment building, four bungalows and two maisonettes. It should be appreciated that the site as whole has been built in two phases, with the above-mentioned buildings forming only one phase. Indeed, six bungalows have also been constructed elsewhere on site, albeit in the upper levels to the east.

Remedial and validation reports shall be submitted for the separate areas. For transparency, the apartment building, maisonettes and bungalows form Area 1 and are the subject of this report; the six bungalows shall be addressed separately as Area 2. RGS are highlighting these two separates sites as whilst the areas have been submitted under separate planning application, combined reporting has previously been undertaken which may cause some ambiguity for the report reader.

The client has developed Area 1 first, with construction taking place in 2022/2023. As such, associated reporting has already been undertaken and submitted to the local authority for Area 1. It should be appreciated that RGS have not been involved for the majority of the work associated with Area 1 thus are reviewing works undertaken by others for our client.

The bungalows have gardens and the apartment block has peripheral landscaping, all of which is grass or gravel topped. A validation report has been produced by ARP Geotechnical Ltd to demonstrate that the required depth of cover has been achieved and that contamination levels of the soils used in the formation of the cover system are acceptable. The report, dated 20th December 2023, reference HIH/07/JPl1, demonstrates that the capillary break and overlying topsoil are suitable for the intended end use. RGS are content with the conclusions of the reporting.

The report has been submitted to Kirklees Council for consultation. Subsequent consultation, response ref WK/202423461 acknowledges the ARP Validation. The consultation also refers in the text to a previous consultation from another planning application for Area 1, responding ref WK/202338550. Both WK reference responses refer to phase 2, phase 3 and phase 4 reporting,

some of which have tested both Areas 1 and 2. RGS have therefore reviewed all the information to summarise the above-mentioned responses – see below.

In WK/202338550 (January 2023), with regards to Condition 14 – Remediation Strategy, Kirklees Environmental Health state the following:

- In reference to previous reporting, *RGS supported the removal of contaminated made ground off-site and replacement with a clean granular fill (dispersal layer) or alternatively employ the use of a vapour barrier* [in the vicinity of the apartment block (TP2)]*. An exclusion zone was not deemed necessary as appropriate measures could be put in place regardless of the position of the buildings on site.*
- *We generally accept the reports provided but recommend the removal of made ground and the installation of a vapour barrier given the limited testing of the underlying strata (deeper than made ground level) around TP2. We also understand that the properties are already built. For these reasons, we recommend the discharge of Condition 14.*

Subsequent to the above, the ARP validation report has been submitted to satisfy Condition 16 – Validation Report. In WK/202423461 (July 2024), Kirklees Environmental Health state the following:

- *Condition 16 requires the applicant to demonstrate that all agreed remediation measures have been employed at the site to ensure the safe occupation of the site in accordance with Policy LP53 of the Kirklees Local Plan and the National Planning Policy Framework. The report provided only covers soil validation. We have concerns over volatile organic compounds (VOCs) at this site as per our response to application 2023/93396 which have not been addressed in this document.*
- *The document fails to demonstrate the details relating to the removal and importation of materials as part of the development. We expect information on these matters to be in accordance with the agreed remediation strategy and good practice guidance.*

As highlighted above, whilst the ARP report does show that the soils insitu are clean and suitable, the risks associated with VOCs around the area of “TP2” i.e. the apartment block, have not been addressed. Moreover, no certification has been provided to demonstrate the handling of soils.

2. Limitations

The recommendations made and opinions expressed in this report are based on the conditions revealed by the site works, together with an assessment of the results submitted by others. This report has been prepared in accordance with our understanding of current best practice. However, new information or legislation, or changes to best practice may necessitate revision of the report after the date of issue.

3. Imported Soil - Certification

Associated waste tickets and transfer notes are provided in Appendix 2. For clarity, “10- clean” refers to 10mm clean gravel which is understood to represent the stone layer.

4. PAH Hot-Spot & Subsequent Remediation (TP02 of ARP Phase 2)

Whilst the ARP soil validation report has provided evidence of a clean cover system being installed in the garden and public open space areas, the report has not addressed the potential volatile risks associated with the PAHs identified at TP02 within their Phase 2 investigation report. As per the comments in the consultation, ARP and RGS stated that the contaminated made ground should be removed, and either a granular backfill (dispersal layer) or vapour barrier be installed. Notwithstanding this, the council advised that both a dispersal layer and vapour barrier should be installed, albeit acknowledged the buildings had already been constructed at the time of consultation.

Having held discussions with the client, RGS understand that a VOC vapour barrier has not been installed; only a radon barrier has been implemented. However, it is understood that the near surface made ground has been removed and replaced with an engineered layer (sub-grade). Moreover, a sub-floor void has been installed beneath the ground floor with numerous air bricks (vents) installed around the perimeter of the building.

5. Insitu PID Monitoring & Investigation

As the development has deviated from the agreed remedial measures discussed in consultation with Kirklees Environmental Health, additional ground investigation and insitu monitoring has been undertaken to evaluate the risk to end users from vapours. As the building has been constructed above the area of TP2, it is now not possible to excavate in the exact area of TP2 to assess the source and absence/presence of contamination directly.

5.1 Trial Pit to Examine Building Sub-Grade

A trial pit was excavated utilising hand-held equipment adjacent to a wall that was deemed the closest wall to TP2. At shallow depths, a sandy sandstone gravel with occasional sandstone cobbles was identified. These soils are anticipated to represent soils similar to the ‘no-dig’ layer material in the ARP soil validation report. The type of material would prove suitable for compaction and therefore it is assumed the material extends beyond the wall and beneath the building itself. It is understood that excavation took place within the area of the apartment block and associated public open space area, and the granular backfill was placed across the apartment block area, with site levels subsequently brought up by the construction of the building and placement of topsoil.

A sample of the sub-grade material was subject to headspace monitoring with a PID monitor. No volatiles were detected.

5.2 PID Monitoring (Air Bricks)

To assess whether volatiles are accumulating in the sub-floor void, PID monitoring of the air bricks has been undertaken. Three monitoring visits have been completed using a RAE Systems MiniRAE 3000 PID monitor (serial No. 592-932847), last calibrated on the 19th August 2024. The calibration certificate of the PID monitor is presented in Appendix 3, along with representative photographs.

A thin flexible tub was attached to the monitor, which was then inserted as far as possible within each of the air bricks. In each case, the monitor was run for a minimum of 1 minute and the peak reading was recorded. Prior to each test, the detector was run in ambient air for several minutes to ensure a null reading was being recorded.

Photographs demonstrating the nature of the testing are appended and the results of the testing are summarised as below:

Table 1: PID Monitoring

Location	Date	VOC Reading Within Air Bricks (ppm)	Comments
Apartment Block	5th March 2025	0.0	Overcast, minimal wind. Falling atmospheric pressure trend in the region.
	12th March 2025	0.0	Overcast, slight wind. Rising atmospheric pressure trend in the region.
	10th April 2025	0.0	Sunny, slight wind. Falling atmospheric pressure trend in the region.

On the basis of the above, it should be noted that all of the readings were zero which implies that the venting system beneath the floors are functioning as they should.

5.3 PID Monitoring (Internal)

To assess whether any VOCs are accumulating internally, a PID monitor was left in a room for a period of 1 week. The monitor was left in a utility room on the ground floor between the 12th and 19th March 2025. This room was selected as there is an open vent in the flooring which allows cables to enter the centre of the building i.e. a direct pathway to the sub-floor void. During the monitoring period, the atmospheric pressure for the region varied between 1003mb and 1030mb. From the 12th to the 17th March, the pressure rose from the base level of 1003mb to 1030mb, thereafter reducing to 1021mb, whereupon the monitoring was curtailed.

The PID monitor was set to collect readings at 60 second intervals. Throughout the testing period, the VOC reading remained at 0ppm, suggesting that no volatiles are accumulating.

6. Revised Conceptual Site Model

The datasets and evidence collected in the recent investigation and testing suggest that the source-pathway-receptor model has changed in relation to volatiles. Indeed, it would appear that the risk has been removed or diminished, as no VOCs have been detected within the sub-grade, sub-floor void or building itself. As such, the conceptual site model is to be updated as follows:

Table 2: Conceptual Site Model

Pathways	Receptor	Linkage Present	Risk Rating	Notes
Inhalation of Dust/Vapours	End User	No – pathway has been broken between end user and source. Moreover, evidence suggests source has been removed.	Low	No further action required.

7. Conclusions

In view of the above, the scope of remedial measures required at the site has changed. The initial remedial measures were directed at the placement of a clean cover system and the installation of vapour protection measures.

ARP have demonstrated that a clean cover system has been installed sufficiently and RGS are content with the soil certificates provided to us to demonstrate that material has left site and also been imported.

It is clear that a VOC barrier has not been installed. However, it would appear that the source has been removed from the site or diminished. In any event, the sub-grade and sub-floor void are acting effectively as no volatiles have been detected during the PID monitoring exercise.

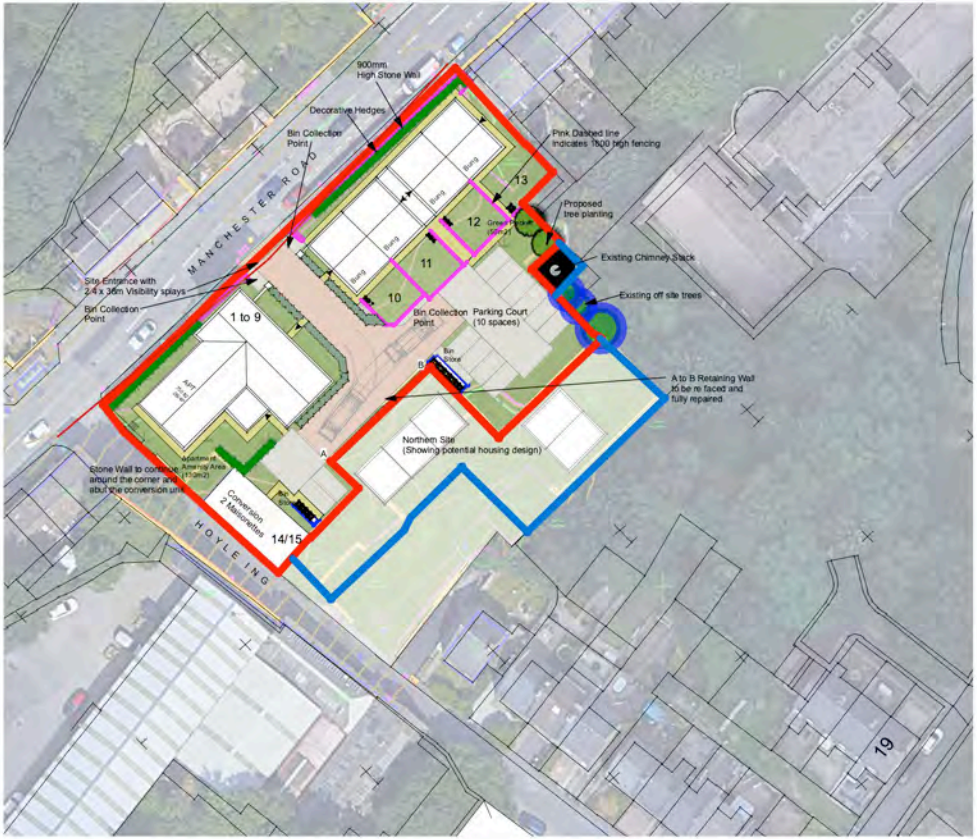
To conclude, RGS consider there to be a low risk to the end users.

8. References

- Department for Environment, Food and Rural Affairs and the Environment Agency (2009) DEFRA Science Report – Final SC050021/SR2, *Human Health toxicological assessment of contaminants in soil*. Environment Agency, Bristol.
- Department for Environment, Food and Rural Affairs and the Environment Agency (2009) DEFRA Science Report – SC050021/SR3, *Updated technical background to the CLEA model*. Environment Agency, Bristol.
- WS Atkins plc, 2011, Soil Screening Values, Derived using CLEA v1.04 and January 2009 Guidance: SSVs derived using CLEA v1.04 for 6% SOM, Residential with home grown produce land use.
- *YALPAG Technical Guidance for Developers, Landowners and Consultants – Verification Requirements for Cover Systems V3.3* Appendix 1a, October 2016.

Appendix 1

Site Plan



N

Accommodation Schedule

Plots 1 to 9
2 Bed 4 Person Apartments
750 sqft

Plot 10 to 13
Bungalow
2 bed/ 3 person
675sqft

Plots 14 and 15
Conversion
2 x 2 Bed Maisonettes

N

Rev	Date	Note
D	24.01.23	Note added regarding boundary wall to corner of site
C	12.05.22	Railings changed to Wall to front of site
B	06-04-22	Apartment Block moved south west
A	13-09-21	Gabians added

LAND OFF MANCHESTER ROAD, LINTHWAITE
PROPOSED SITE PLAN

DATE: 16-03-21 | SCALE @ A3 1:500 | DRWG: HA-MRLW-001 REV:D

HIGHSTONE

Appendix 2

Soil Certificates (Import and Export)

NOTE NO 103737

Seller / Consigner:

PMW Quarries.co.uk

PMW Quarries Ltd., Holmfirth Road, Shepley
Huddersfield, West Yorkshire HD8 8BB
Tel: 01484 606213 Fax: 01484 604057

SIC Code: 08110 · Waste Carrier No. CBDU393392

CONVEYANCE NOTE: **Weights & Measures Act 1963;** Schedule 5, Paragraph 7; Schedule 6, Paragraph 11

LOADING ADDRESS	DATE	REG. No. OF VEHICLE
Manchester Rd Lathwaite HD7 5QS	18/10/23	MV18 UJG

CUSTOMER: HIGHSTONE

TIPPING ADDRESS: Castwell PMW

DRIVER'S SIGNATURE	MATERIAL		
MCarnel	Grab MUCK away		
WAITING TIME OR DAY WORK		TONNES	KILOS
SIGNED:	GROSS VEHICLE WEIGHT AT WEIGHBRIDGE		
	TARE WEIGHT OF VEHICLE		
ORDER No.	**NET WEIGHT SOLD**	1 Load	

Certified that the above particulars are true and relate to the material being conveyed in the vehicle described, which material is being so conveyed in pursuance of:

(a) *A SALE or an agreement for the sale thereof made by weight,

(b) *An agreement for the CARRIAGE thereof made by weight.

Dated this [redacted] **day of** [redacted] **20**

*(a) or (b) delete words

SIGNED: [redacted]

Received by:

NOTICE: IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE ADEQUATE ACCESS. NEITHER THE COMPANY NOR THE DRIVER CAN BE HELD RESPONSIBLE FOR DAMAGE WHILST UNDER INSTRUCTION FROM THE CUSTOMER

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Duty of care: waste transfer note

Keep this page and copy it for future use. Please write as clearly as possible.

Section A – Description of waste

A1 Description of the waste being transferred

TOPSOIL (CLEAN)

List of Waste Regulations code(s)

A2 How is the waste contained?

Loose ☐ Sacks ☑ Skip ☐ Drum ☐

Other ☐

A3 How much waste? For example, number of sacks, weight

30T

Section B – Current holder of the waste – Transferor

By signing in Section D below I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011 Yes ☑

B1 Full name

STEVE HAWLEY

Company name and address

BROADSTONE FARM
BROWNS EDGE ROAD
SHEFFIELD

Postcode S36 7GR SIC code (2007)

B2 Name of your unitary authority or council

BARNSLEY

B3 Are you:

The producer of the waste? ☑
The importer of the waste? ☐
The local authority? ☐
The holder of an environmental permit? ☐
Permit number
Issued by
Registered waste exemption? ☐
Details, including registration number
A registered waste carrier, broker or dealer? ☑
Registration number CBDU151637
Details (are you a carrier, broker or dealer?)

Section C – Person collecting the waste – Transferee

C1 Full name

Company name and address

HIGHSTONE BUILDING SERVICES
329 WAKEFIELD ROAD
DENBY DALE
HUDDERSFIELD

Postcode HD8 8RX

C2 Are you:

The local authority? ☐

C3 Are you:

The holder of an environmental permit? ☐
Permit number
Issued by
Registered waste exemption? ☐
Details, including registration number
A registered waste carrier, broker or dealer? ☑
Registration number CBDU151637
Details (are you a carrier, broker or dealer?)

Section D – The transfer

D1 Address of transfer or collection point

LAND OFF MANCHESTER ROAD
LINTHWAITE

Postcode HD7 5QS

Date of transfer (DD/MM/YYYY) 14-08-2023

D2 Broker or dealer who arranged this transfer (if applicable)

Postcode

Registration number

Transferor's signature

Name STEVE HAWLEY.

Representing

Name GARETH LLOYD

Representing

Seller / Consigner:

NOTE NO 107188

PMW Quarries.co.uk

PMW Quarries Ltd., Holmfirth Road, Shepley
Huddersfield, West Yorkshire HD8 8BB
Tel: 01484 606213 Fax: 01484 604057

SIC Code: 08110 - Waste Carrier No. CBDU393392

CONVEYANCE NOTE: Weights & Measures Act 1963; Schedule 5, Paragraph 7; Schedule 6, Paragraph 11

LOADING ADDRESS	DATE	REG. No. OF VEHICLE
HOWLEY PARK	26-10-23	MV 17 VEU

CUSTOMER: HIGHSTONE BUILDING SERVICES

TIPPING ADDRESS: HOYLE ING DYEWORKS, MANCHESTER ROAD LINTHWAITE

DRIVER'S SIGNATURE [redacted]

MATERIAL: 10 - CLEAN

WAITING TIME OR DAY WORK

SIGNED: .....

ORDER No.

	TONNES	KILOS
GROSS VEHICLE WEIGHT AT WEIGHBRIDGE		
TARE WEIGHT OF VEHICLE		
NET WEIGHT SOLD	19	000

Certified that the above particulars are true and relate to the material being conveyed in the vehicle described, which material is being so conveyed in pursuance of:

(a) *A SALE or an agreement for the sale thereof made by weight,

(b) *An agreement for the CARRIAGE thereof made by weight.

Dated this ..... day of

** (a) or (b) delete words inapplicable*

SIGNE [redacted]

Receiv .....

NOTICE: IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE ADEQUATE ACCESS, NEITHER THE COMPANY NOR THE DRIVER CAN BE HELD RESPONSIBLE FOR DAMAGE WHILST UNDER INSTRUCTION FROM THE CUSTOMER.

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18.10

Seller / Consigner:

NOTE NO: 286775

PMW Quarries.co.uk

PMW Quarries Ltd., Holmfirth Road, Shepley
Huddersfield, West Yorkshire HD8 8BB
Tel: 01484 606213 Fax: 01484 604057

SIC Code: 08110 - Waste Carrier No. CBDU393392

CONVEYANCE NOTE: Weights & Measures Act 1963; Schedule 5, Paragraph 7; Schedule 6, Paragraph 11

LOADING ADDRESS	DATE	REG. No. OF VEHICLE
O C O	10 10 23	MV72 X WY

CUSTOMER: HIGHSTONE BUILDING SERVICES

TIPPING ADDRESS: HOLLINGDALE WORKS

MANCHESTER RD LINTHWAITE

DRIVER'S SIGNATURE	MATERIAL
	10M+ CLEAN REC

WAITING TIME OR DAY WORK		TONNES	KILOS
SIGNED:	GROSS VEHICLE WEIGHT AT WEIGHBRIDGE	32	00
	TARE WEIGHT OF VEHICLE	13	00
ORDER No.	**NET WEIGHT SOLD**	19	00

Certified that the above particulars are true and relate to the material being conveyed in the vehicle described, which material is being so conveyed in pursuance of:

(a) ***A SALE** or an agreement for the sale thereof made by weight,

(b) ***An agreement for the CARRIAGE** thereof made by weight.

Dated this ..... **day of** ..... **20**.....

** (a) or (b) delete words inapplicable*

SIGNED: .....

Received .....

NOTICE: IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE ADEQUATE ACCESS, NEITHER THE COMPANY NOR THE DRIVER CAN BE HELD RESPONSIBLE FOR DAMAGE WHILST UNDER INSTRUCTION FROM THE CUSTOMER.

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Appendix 3

PID Monitoring Certification and Site Photographs

Ribble Enviro Ltd
www.ribble-enviro.co.uk



...everything gas detection

Certificate of Calibration

Customer:	Rogers Geotechnical
Instrument:	MiniRAE 3000
Job:	Service, Test & Calibration
Serial number:	592-932847
Fleet Number:	-
Certificate no:	932847/190824
Next calibration due date:	19.AUG.2025
Tested on:	19.AUG.2024
Calibrated for:	Isobutylene

Applied Gas Concentration:	Cylinder Reference:	Final Sensor Reading	Accuracy Limits	Pass / Fail
Isobutylene: 100ppm	12600-3-1	100ppm	± 10%	Pass

The instrument has been calibrated after re-zeroing and introducing span calibration gas, using gas that is traceable to national standards and has been prepared in accordance with BS EN ISO 6145-6:2017

Calibration Engineer: Dan Jacques

Sign: .....

Quality Assessed by (Print):	C. Shillitoe	Sign:	

Tel: 01200 445 804 **Fax**: 01200 445 809 **Email**: info@ribble-enviro.co.uk
Ribble Enviro Ltd. Unit 4, Gisburn Business Park, Gisburn, Nr Clitheroe, BB7 4JP, UK

Company Registered in England: 06140589 VAT No: GB 906 6241 34 EORI: GB906624134000



Photo 1 : Demonstrating spacing of air bricks. Wall adjacent to Manchester Rd. 05/03/2025



Photo 2 : PID in operation with vents adjacent Manchester Rd. 0ppm reading. 05/03/2025

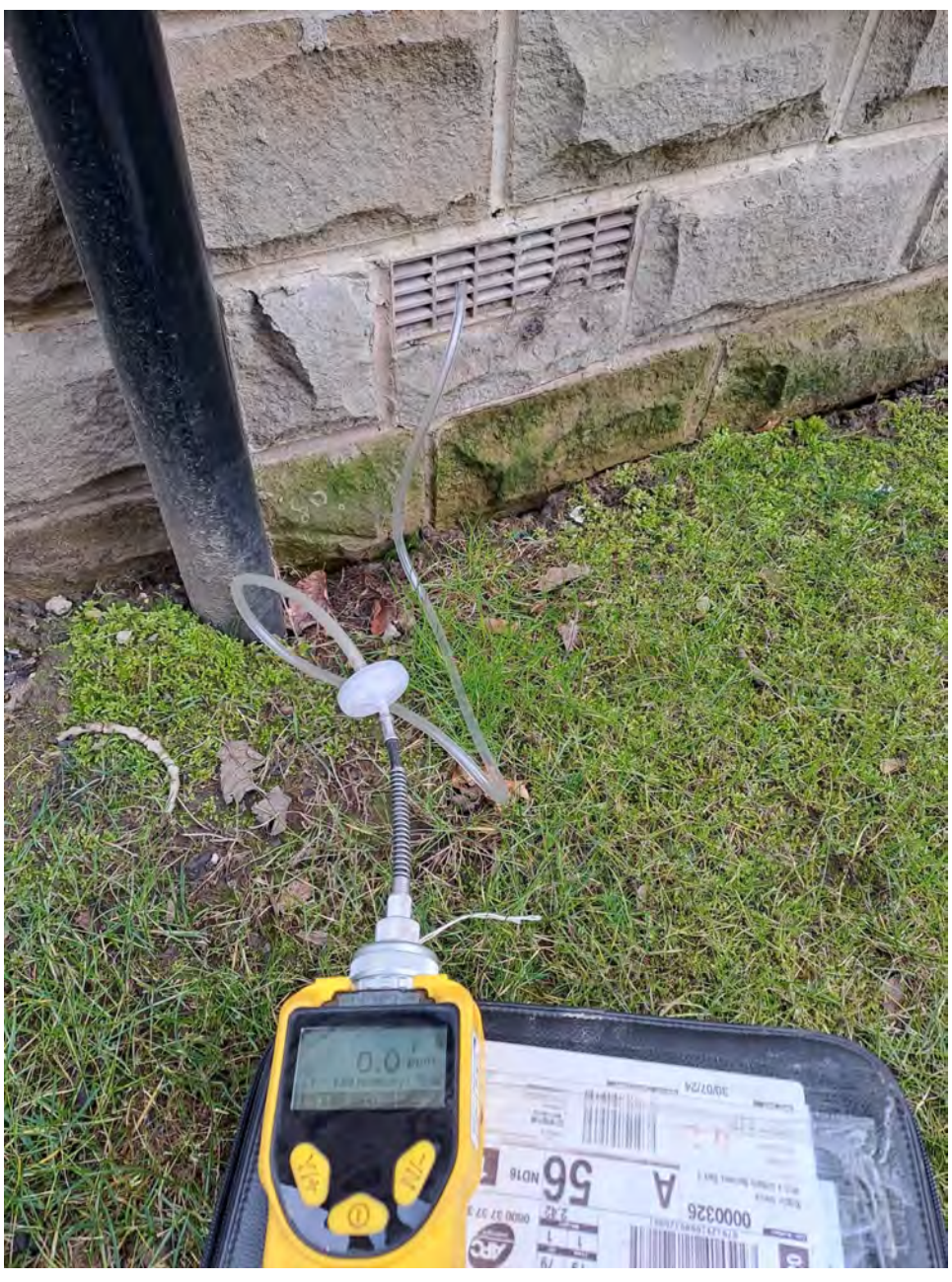


Photo 3 : PID in operation. 0ppm reading. 05/03/2025



Photo 4 : PID in operation. 0ppm reading. 05/03/2025

Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe Business Park,
Near Bank, Shelley,
Huddersfield,

Job No:	Site:	Client:
C3012/23/E	Land off Manchester Road Linthwaite	Highstone Building Services



Photo 5 : PID in operation. Manchester Rd in background. Sloping site so air bricks are closer to actual “ground level” on higher ground.
05/03/2025



Photo 6 : PID in operation. Sloping site so air bricks are higher on lower ground.
05/03/2025

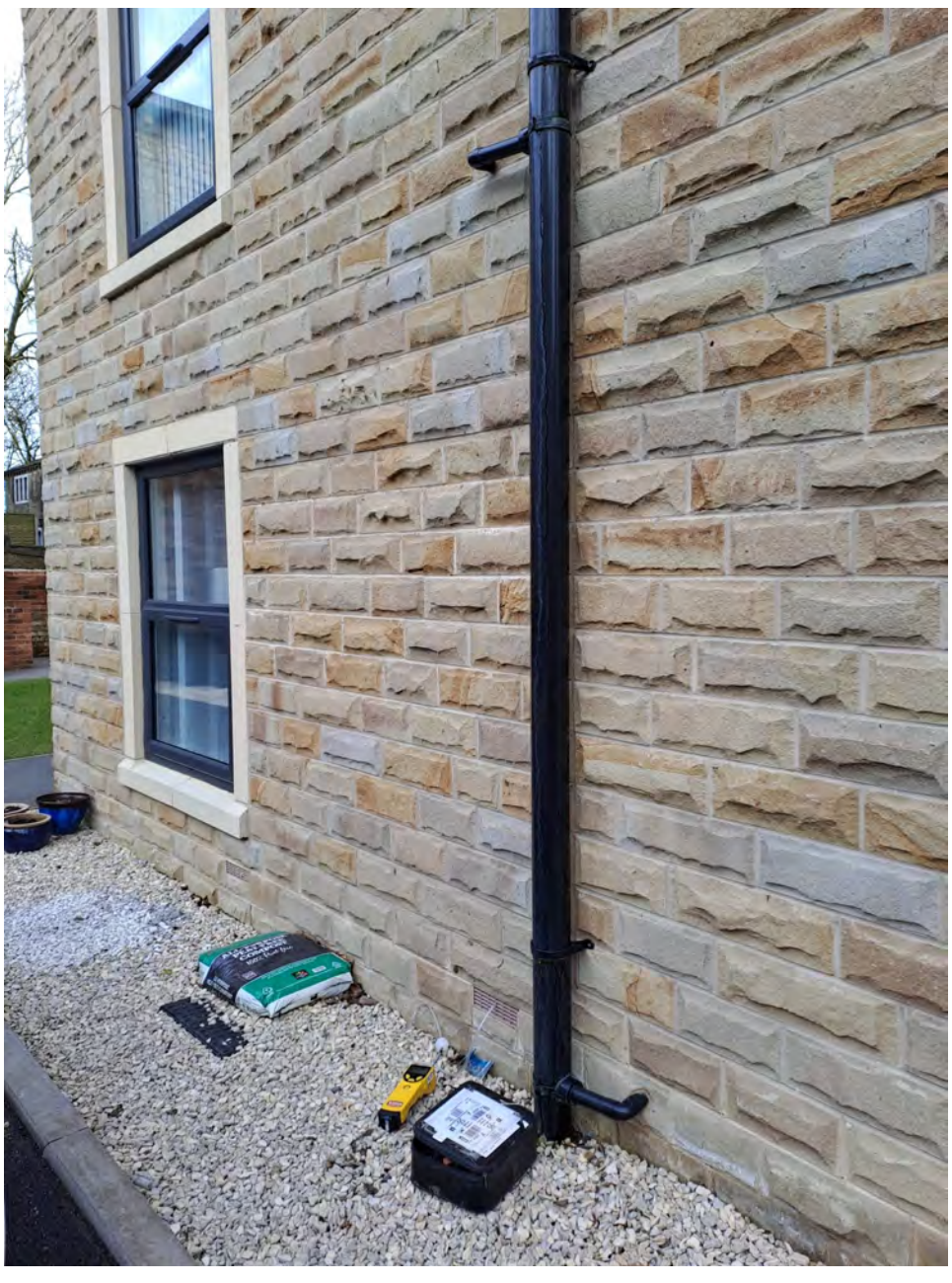


Photo 7 : PID in operation.
05/03/2025



Photo 8 : PID in operation. 0ppm reading.
05/03/2025



Photo 9 : PID operation in progress. North-western wall.
05/03/2025



Photo 10: PID in operation. 0ppm reading.
05/03/2025



Photo 11 : PID operation in progress. North-western wall. Manchester Rd in background.
05/03/2025



Photo 12: PID in operation. 0ppm reading.
05/03/2025

Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe Business Park,
Near Bank, Shelley,
Huddersfield,

Job No:	Site:	Client:
C3012/23/E	Land off Manchester Road Linthwaite	Highstone Building Services



Photo 13 : PID operation. 0ppm
12/03/2025



Photo 14: PID in operation. Electric cables to the left hand-side of router (see Photo 15)
12/03/2025



Photo 15 : Electric cable entering room from void in floor. 0ppm ambient reading.
12/03/2025



Photo 16 : Trial pit excavated near north-western corner, close to ARP's TP2. Had to excavate beneath the existing pipe.
10/04/2025



Photo 17: Bulk bag of material collected and PID headspace test. 0ppm reading.
10/04/2025

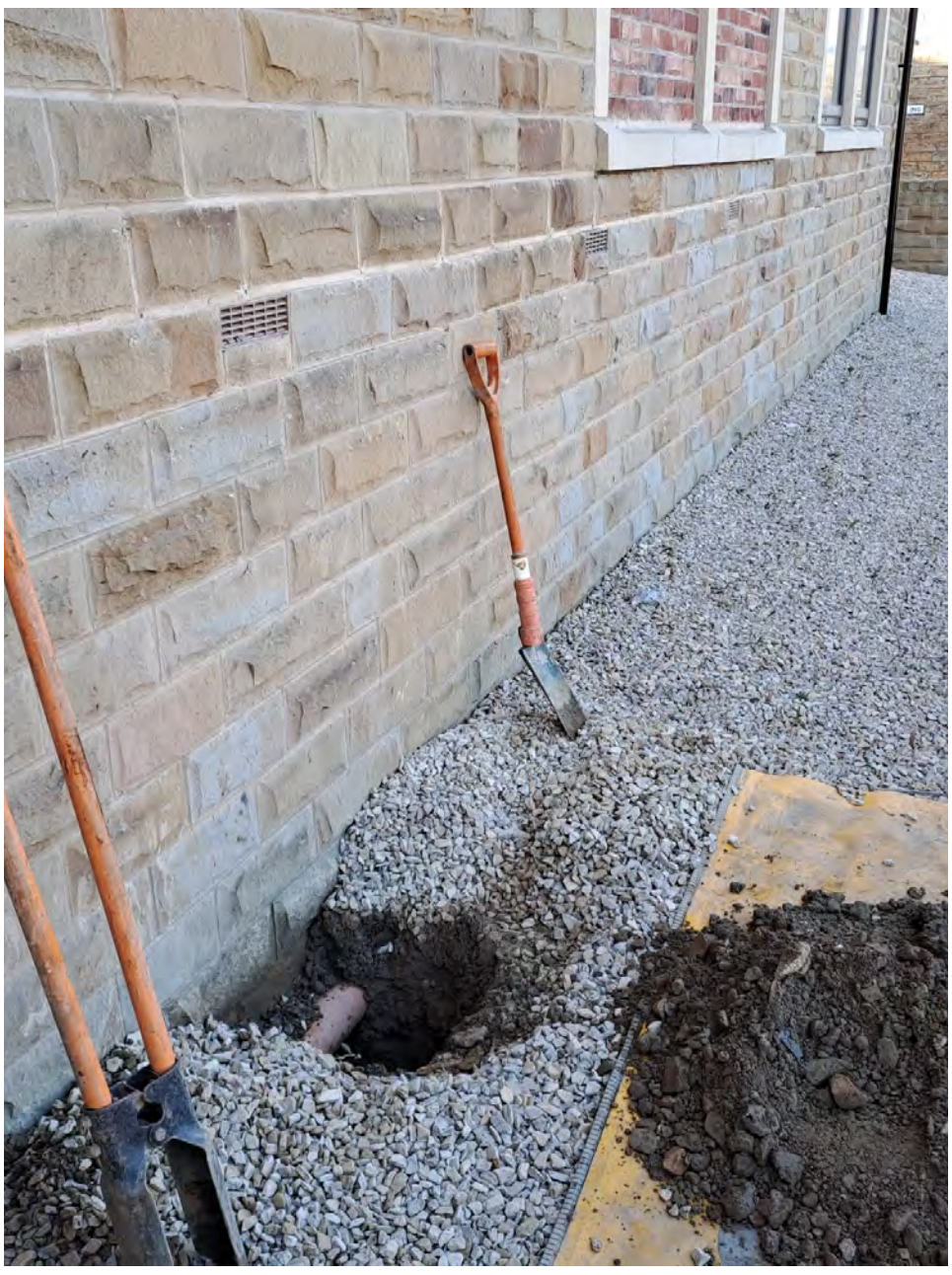


Photo 18 : Trial pit undertaken. Material appears dark on photo (see Photo 19).
10/04/2025



Photo 19 : Sub-grade material. Sandy gravel with cobbles. Engineered fil that does not meet the description of contaminated material from ARP report.
10/04/2025