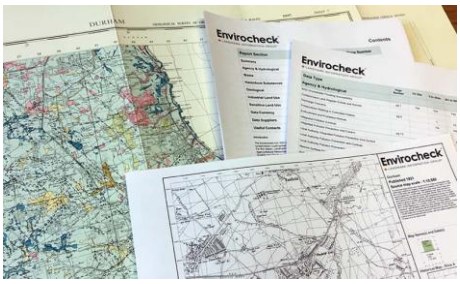



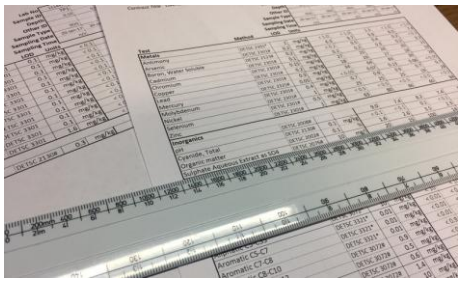

Phase 3: Remediation Statement

Milnsbridge, Huddersfield

Dempsey & Gannon

S240420/REM

Solmek Ltd

12 Yarm Road
Stockton-on-Tees
TS18 3NA
Tel: 01642 607083

www.solmek.com

info@solmek.com

PHASE 3 REMEDIATION STATEMENT

MILNSBRIDGE, HUDDERSFIELD

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APPENDICES

Revision	Date	Prepared By
Final	August 2025	L Cassidy Associate Director
		Checked By
		A Cutts *Principal Engineering Geologist*
		Approved By
		A Cutts *Principal Engineering Geologist*

1 OBJECTIVES & PRINCIPLES OF REMEDIATION STATEMENT

Solmek have been commissioned by Dempsey and Gannon, on behalf of Mr Benjamin Good to prepare a Remediation Statement for the redevelopment of land at Royal Terrace, Milnsbridge, Huddersfield, HD3 4PL. A site location plan is presented in Appendix A, Figure 1.

The site is expected to be developed with commercial units with associated parking and peripheral soft landscaping (Drawing 1101-DAG-SK-A-0200, Appendix A).

The following reports have already been issued in respect of the site:

- *Solmek Phase 1 Desk Study (S240420) May 2024*
- *Solmek Phase 2 Site Investigation (S240420) June 2024*
- *Solmek Ground Gas Risk Assessment (S240420/Gas) October 2024*

The above reports should be reviewed for context regarding the site history, environmental setting, geology and also the findings of historical geotechnical/contamination testing.

This Remediation Statement outlines the objectives of the remediation works that are required to render the site suitable for the proposed development and its immediate surroundings, which mainly comprises residential buildings.

Site works shall be supervised periodically by a suitably qualified engineer. Agreed dates and milestones for site visits can be agreed between Solmek and the contractor following approval of the Remediation Statement from the Local Authority.

This Remediation Statement has been prepared generally accordance with the following documents:

- NHBC, Environment Agency and Chartered Institute of Environmental Health R&D Publication 66: (2008) *Guidance for the Safe Development of Housing on Land Affected by Contamination*
- Site Investigation Steering Group (2011) *UK Specification for Ground Investigation, 2nd Edition.*
- Site Investigation Steering Group (2013) *Effective Site Investigation*
- BS10175:2011+A1:2017: *Code of Practice for the Investigation of Potentially Contaminated Sites*
- BS5930:2015+A1:2020: *Code of Practice for Site Investigations*
- Environment Agency (2020) *Land Contamination Risk Management*
- BS8485:2015+A1:2019: *Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings*

2 REVIEW OF SITE HISTORY AND INVESTIGATION WORKS

2.1 Previous and Current Land Use

The earliest maps (1854) show that the site comprised railway lines and an embankment, with coal drops noted by the 1890s. The railway lines were removed by the 1980s.

2.2 Ground Conditions

A site investigation was undertaken by Solmek in May 2024. The works comprised 5no. small percussive boreholes (BH01 to BH05) to max. 2.00mbgl and 7no. machine excavated trial pits (TP01 to TP07) to max. 3.50mbgl. The exploratory hole locations are shown on Figure 2 (Appendix A).

2.2.1 Made Ground

Made ground can be split into two distinct groups on-site. Generally Made Ground was noted as comprising of gravelly slightly clayey Sand with a low cobble content, present from surface to between 0.30 and 0.70mbgl.

Towards the centre of the site along the southern boundary, made ground was noted from surface to between

1.30 and 3.50m in thickness with composition akin to landfill. Within BH03 and TP04, the base of the made ground was not proven, with these positions terminating at 1.60 and 3.50mbgl, respectively.

2.2.2 Obstructions

Within TP04 multiple large obstructions were encountered including, but not limited to: Tyres, Concrete Boulders >1.00m diameter, Concrete Sidings, Paving Slabs >0.50m diameter, Metal Rebar >2.00m in length and Wooden Doors >1.50m in length. Similar obstructions were also encountered in the Made Ground in TP03, but sizes did not exceed 0.30m in diameter.

Apart from TP04 & TP03, obstructions in the Made Ground were encountered in BH03, resulting in the termination of the exploratory position, as summarised below:

- BH03 (concrete obstruction at 1.60mbgl)

Apart from TP03, all exploratory locations were terminated due to obstructions encountered in natural deposits, suspected to be the Sandstone Bedrock.

2.2.3 Natural Deposits

No superficial natural drift deposits were encountered in any location

2.2.4 Solid Geology

Inferred sandstone rockhead was encountered at depths between 0.30 and 1.30mbgl within the small percussive boreholes and trial pits, however bedrock was not proven via rotary drilling methods.

2.2.5 Groundwater

No groundwater strikes were encountered during the investigation. It should be noted the rapid rate of advancement of the exploratory holes may mask minor seepages and it should be borne in mind that water levels fluctuate with a number of influences including season, rainfall, dewatering and pumping activities.

2.3 Historical Contamination Results

2.3.1 Historical Contamination Results – Soils

To establish if any contamination was present in the ground from recent or historic sources six selected soil samples from within the area proposed for development were subject to chemical testing comprising metals and semi-metals, Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG) and Polycyclic Aromatic Hydrocarbons (PAH).

To establish if the levels of contaminants present on site may pose a risk to the health of the future users of the site the results of the contamination testing have been compared to a series of LQM/CIEH S4UL thresholds based on commercial end use.

The below exceedances were noted within the six samples tested:

- TP02 - 0.10-0.20m (Made Ground – granular) recorded elevated benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene and total PAH
- TP03 - 1.00-1.10m (Made Ground – granular) recorded elevated levels of nickel and asbestos (chrysotile, quantified as 0.005%)

Double Ratio Plot Analysis of the samples which recorded elevated PAHs indicates that the PAH is generally of coal/creosote origin.

2.3.2 Historical Contamination Results – Ground Gas

Six visits have been carried out between June and September 2024 to assess the potential risks posed by ground gases to date. Ground gas was monitored by measuring emissions from monitoring points installed into BH02, BH03 and BH05 during the fieldwork.

The monitoring was generally carried out in accordance with current guidance provided within CIRIA C665:2007. The atmospheric pressure has an impact on the concentrations of gas released. The atmospheric pressure was between 992 and 1018 millibars during the surveys. Times of rising and falling atmospheric pressure regional trends were noted during each survey. This is considered to be a very good range of conditions for the time of year as the worst-case conditions have been captured i.e. <1000mB and falling pressure.

Carbon dioxide concentrations were recorded between 0.0% and 3.0% volume, and oxygen levels were between 17.0 and 20.8%. Methane was not detected in any of the boreholes during the survey and very low flow rates were recorded.

The gas screening values from the monitoring visits would place the site in **Characteristic Situation 1.**

2.4 Historical Contamination Recommendations

During any further construction activities, if any zones of odorous, brightly coloured or suspected contaminated ground are encountered then work should cease in that area until the material has been tested. The results of the tests will determine whether or not remediation will be required.

It was recommended that as good practice, full PPE must be employed in accordance with Health and Safety Executive: Protection of Workers and the General Public During the Development of Contaminated Land and safeguards should be taken to limit dust during ground works, and access to the public should be restricted. Construction workers should use gloves as a precaution when handling any fill materials. Provision of suitable hygiene facilities are needed for site workers.

In terms of services, polyethylene, copper and wrapped steel are precluded, based on the depth of proposed service corridors.

3 REMEDIATION STRATEGY

3.1 Principal Contaminant Linkages

Based on the Conceptual Model provided within the Phase 2 report, a brief summary of the principal contaminant linkages understood to be present is provided below:

1. Interaction of future users with contaminated soils
2. Interaction of construction workers with contaminated soils
3. Impacts of dust generation to off-site receptors
4. Impact of aggressive ground on buried concrete/utilities

3.2 Objectives

Based on the Site Investigation Reports, the following remediation targets have been determined:

- Provide hard cover to the majority of the site, including building footprints, roads, parking and paving thus removing pathways between potential sources of contamination (made ground) and receptors (future users of the site and construction workers).
- Provide suitable ground conditions (clean cover system) in proposed soft landscaped areas suitable for plant growth.
- To resolve contamination issues in order to protect those receptors identified to be at risk, and thereby render the site suitable for the proposed development.
- Safe strip, excavation and stockpiling of potentially contaminated materials. This material will then either be safely encapsulated beneath hardstanding (i.e. building footprints, roads, parking areas)

or removed from site to an appropriate waste facility. This would protect those receptors identified to be at risk (namely construction workers and future site users) thus rendering the site safe during the proposed construction and development phase.

- Strip the site to appropriate formation levels for construction.
- Provide guidance on how the remediation targets will be checked and validated.

A Remediation Statement comprising excavation, disposal, and inclusion of clean soils is to be adopted. The Site Investigation Report contains information that can be used to gauge the typical quantities to be addressed.

3.3 General

The purpose of the remediation works is to:

- To reduce liabilities associated with ground conditions by reclaiming the site within a framework of risk assessment.
- To facilitate successful redevelopment of the site for development within the existing constraints.
- To ensure that the public and residents around the site are not exposed to contamination.
- To make the site safe for future occupiers.
- To enable the site ground quality to comply with UK environmental legislation.
- To provide a sustainable and cost effective solution.

3.4 Proposed Remediation Strategy

The above objectives will be achieved by undertaking the following remediation works prior to development taking place:

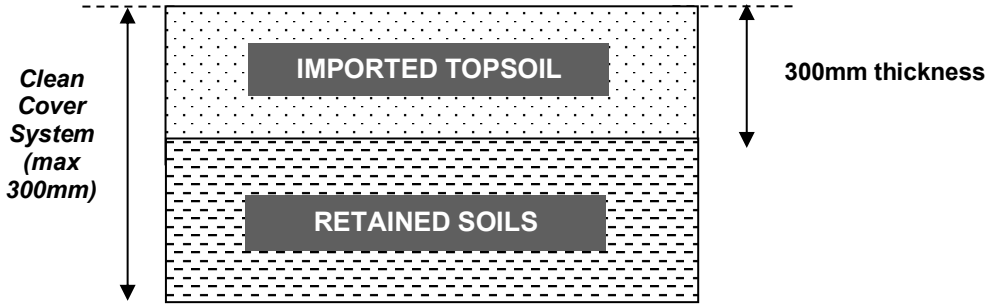
3.4.1 Hard Landscaped Areas

- Areas beneath proposed footpaths, parking zones or other areas of hard landscape, including the building footprints, will require little or no remediation other than removal of materials to satisfy appropriate formation levels for construction.
- This provides a barrier to potential underlying contamination within the made ground and protects groundwater from surface infiltration.

3.4.2 New Landscaped Areas

- Drawing 1101-DAG-SK-A-0200 within Appendix A is the proposed layout of the site provided by the client and shows proposed peripheral landscaped areas on the drawing.
- It is proposed to strip all of the made ground from landscaped areas to natural deposits, or until a depth of 0.30m is reached – whichever is shallower. The arisings will either be placed under permanent hardstanding areas/building footprints or removed from site, thus reducing all risk from potential contamination.
- The clean cover system will comprise a max. 300mm thick layer of imported topsoil (Figure A below).

FIGURE A: CLEAN COVER SYSTEM – GARDENS



3.4.3 General Comments on Soil Suitability

- The topsoil to be utilised will comprise imported off-site topsoil.
- Imported topsoil, if used, should be BS 3882:2015 compliant and 'suitable for their intended purpose'.
- Imported subsoil, if used, should be BS 8601:2013 compliant in terms of providing a suitable environment to support plant growth.
- BS 3882:2015 & BS8601:2013 relate to nutrient content of topsoil and phytotoxic contamination and does not consider contaminants that pose a risk specifically to human health, therefore all site won topsoil and imported topsoil and subsoil materials to be reused in the clean soil cover layers should also be tested (as detailed in Section 5.1) for contaminants that are considered to pose a risk to human health (Appendix B) to ensure that they are suitable for their intended use.
- The clean cover system **must** be installed and verified in accordance with the Local Authority Guidelines '*Verification Requirements for Cover Systems, Technical Guidance for developers, Landowners and Consultants*' (Yorkshire and Lincolnshire Pollution Advisory Group Version 4.1 – June 2021).
- It is recommended to undertake all validation testing (topsoil) **prior to emplacement** in the landscaped areas, to reduce the risk of having to re-excavate any contaminated soils.
- Once the soils have been validated, they can be emplaced and will then require the thickness of the soils to be validated.
- Prior to installing the clean cover system, the site operatives must mitigate against potentially contaminating clean materials with soil and dust generated from underlying contaminated ground or any other stockpiled materials onsite.

3.4.4 Localised Contamination Hotspots (TP02 & TP03)

- A sample from TP02 (0.10-0.20m) recorded elevated PAHs, whilst a sample from TP03 (1.00-1.10m) recorded elevated nickel and asbestos (chrysotile)
- Both samples comprised granular made ground, from the west of the site.
- Both of these positions are in areas that will be encapsulated beneath hardstanding/building footprints, therefore they are not considered to pose a risk to end-users.

3.4.5 Asbestos Impacted Soils

- Chrysotile asbestos were detected in the made ground within TP03 (1.00-1.10mbgl) with a content of 0.005% by mass.
- Asbestos may be present elsewhere on the site that has not been sampled or testing during this investigation. All groundworks should, therefore, be supervised by a suitably qualifier asbestos contractor/surveyor. All works should be undertaken in accordance with the *Control of Asbestos Regulations* (2012) and CIRIA C733 *Asbestos in soil and made ground: a guide to understanding and managing risks (2014)*.
- Should further asbestos be identified, this should be suitably sampled and sent to an UKAS/MCERTS accredited laboratory for asbestos quantification testing.
- Any groundworks undertaken at the site should be under special precautions to eliminate dust creation and migration. This can be achieved by ensuring the ground remains wet (moisture content of >15%).
- Should further asbestos be proven, the material should be separately stripped and stockpiled under special precautions.
- During transportation, the material should be moved under special precautions to prevent asbestos fibres becoming airborne. The material must remain wet (moisture content of >15%) during transportation and construction workers should employ appropriate PPE.

3.4.6 Building Materials & Utilities

- For buried concrete, in accordance with BRE Special Digest One: *Concrete in Aggressive Ground*: 2005 3rd Edition, Class DS-1 ACEC (Class AC-1s) is considered suitable.
- For utilities, copper, wrapped steel and polyethylene pipes would not be permissible within the made ground, depending on the depth of the proposed utility corridors.

3.4.7 Treating Unknown Contamination

- During any construction activities should any zones of odorous, brightly coloured or suspected contaminated ground be encountered then work should cease immediately in that area until Solmek have been contacted and visited site. Further contamination testing may be required. The results of the tests will determine whether or not material may remain on site or be disposed of in a safe manner.

4 GENERAL REMEDIAL WORKS

4.1 Soil Import Methodology

It is understood that topsoil is proposed to be imported to site as part of the remedial and preparatory works.

Any material to be imported to the site will need to be characterised by testing, and the loads imported should be catalogued and presented in the Phase 4 Validation Report.

The importation of soils will be undertaken as part of the contract for the preparatory and remedial works, in which case imported soils will be stockpiled in a location agreed with Solmek and the Client. This location should be quarantined, with the imported material sited upon visqueen and covered if necessary, away from potential sources of on-site contamination. Alternatively, the developer may choose to import soil at a later stage in the development. Sources, types of suitable material and the moisture content at which they may be placed and compacted shall be approved by Solmek.

Consideration should be given to the YALPAG Guidance *"Verification Requirements for Cover Systems",* and in particular to the Overview Flowchart provided within (Appendix C of this report). Any prospective suppliers of soil should first be questioned, in line with Appendix 1b of the YALPAG document, "Questions to Ask Your Soil Supplier Relating to Soil Quality". Confirming that the soil supplier is aware of the expected soil quality is mandatory in order to ensure the imported soil is of sufficient quality.

In addition, upon delivery a visual inspection should be undertaken of the soil, with photographs taken for records.

The visual inspection should ensure that the material is free from deleterious materials. Any imported material shall NOT contain the following:

- Colliery shales.
- Ironstone shales.
- Materials containing sulphates.
- Any Japanese Knotweed fragments (rhizomes, leaves, stems etc).
- Materials susceptible to frost damage, weathering and mechanical damage.
- Deleterious made ground materials such as bricks, ash, tarmac, concrete, plastics and glass.

Fill areas shall be built up evenly over the full area of each phase, unless the Contract requires otherwise, and sufficient camber shall be maintained at all times to enable surface water to drain from them. The containment or disposal of surface water during the construction period shall be the Contractor's responsibility. The Contractor shall ensure that excavations and areas to be filled are free from organic material, loose soil, rubbish and standing water.

Material in fill areas which has deteriorated due to the ingress of surface water or the trafficking of the Contractor's plant shall be removed and replaced.

Following placement, the clean cover layer needs to be verified by a Solmek Engineer to ensure that the cover layer is formed from appropriate materials and is of sufficient thickness.

4.2 Excavation of Potentially Contaminated Material

Soils that are to be excavated in order to achieve finished levels and/or are suspected of being contaminated shall be excavated and placed in contained and covered stockpiles prior to being removed from site.

Material taken off site must be subject to Waste Classification, to determine whether the material is Hazardous Waste or Non Hazardous Waste. WAC testing would then be required, which can be undertaken either by Solmek or by the appropriate waste disposal company. The disposal contractor can advise if any further tests are required depending on the volume of material to be exported to landfill. Any material exported to landfill should be transported by a registered waste carrier in accordance with the requirements of the Duty of Care Regulations, 1991 and the Landfill (England & Wales) Regulations, 2002.

For this site, Waste Classification and WAC testing have not been undertaken. These would be required to facilitate the removal of material to an appropriate facility.

The Contractor shall provide appropriate measures to prevent collapse of excavations and de-watering apparatus to prevent water accumulation within excavations. All excavations left open shall be securely fenced. Any potentially contaminated water encountered during the works shall be stored appropriately to prevent it being discharged from the site, and chemical analysis undertaken. The contractor should make proper arrangements to treat or dispose of the water once the chemical analysis results are available. Works should be undertaken in accordance with CIRIA report 113 *Control of Groundwater for Temporary Works.*

4.3 Backfilling of Excavations

Once the above works are complete, the contractor shall backfill all excavations. Backfilling shall be undertaken in a controlled manner in accordance with an engineering specification appropriate to the type of material to be used.

4.4 Short-Term Health and Safety Implications

There will be a short period whereby contaminated soils may be exposed or moved on site. There is a risk at this time of dust exposure to workers and the public, and secondly, of dermal contact to workers

4.4.1 Off-Site Receptors

The surrounding area consists of residential land to the south, commercial land to the east, railway lines to the north and commercial land to the west.

Activities likely to generate dust include excavations, vehicle movements, movement of stockpiled soils, crushing and screening of materials and wind blowing across the site/stockpiles.

To mitigate any risks of dust exposure, consideration should be given to BRE: *The Control of Dust and Emissions from Construction and Demolition: Best Practice Guidance.* As a minimum, a daily inspection should be undertaken by the contractor on-site and at downwind site boundaries to assess the potential for dust nuisance.

During dry weather, any excavations may require clean water to be sprinkled at shallow depth to prevent excess dust escaping to off-site receptors. Monitoring of dust concentrations during construction should be given careful consideration to ensure occupational exposure levels are not exceeded.

4.4.2 On-Site Workers

Localised contamination is present in the west (nickel, PAHs, asbestos) of the site.

With respect to minimising risks to construction staff, all works should adhere to HSE guidance: *Protection of Workers and the General Public During the Development of Contaminated Land*. As a minimum, full PPE must be employed, access by the public should be restricted and construction workers should use gloves as a precaution when handling any fill materials. Provision of suitable hygiene facilities are needed for site workers.

In addition, the risk of short-term acute exposure (e.g. to construction workers) falls under the *Health and Safety at Work Act: 1974* and underlying regulations, such as the *Control of Substances Hazardous to Health (COSHH, 2002)* Regulations. The levels of contamination and the associated risks to site workers should be considered under the *Construction Design and Management (CDM, 2015)* regulations during the planning of works and the preparation of the designers and contractors Health and Safety Plans and Method Statements, which should be adhered to by all subcontractors attending site for all works.

5 VALIDATION TESTING AND REPORTING

On satisfactory completion of the works Solmek will provide a Validation Report to the Client. The Validation Report will provide certification that the remediation works have been carried out in accordance with this Remediation Statement. The Validation Report will include a summary of the remediation works undertaken, laboratory test results, drawings supplied by the Contractor's surveyor, and details of any other relevant matters.

Appendix 1A of Local Authority Guidelines 'Verification Requirements for Cover Systems, Technical Guidance for developers, Landowners and Consultants' (Yorkshire and Lincolnshire Pollution Advisory Council Version 4.1 – June 2021) outlines that for greenfield/manufactured soils, a minimum of three samples, or 1 per 250m^3, whichever is greater should be tested. For brownfield/screened soils, a minimum of six samples or 1 per 100m^3 should be tested.

It is understood that imported materials are likely to be used, however the volumes of material to be used is not known by Solmek. The source and volumes of material utilised will be outlined in the Phase 4 Validation Report, which will provide testing results in line with the requisite ratio.

The Validation Report issued on completion of works will cover the following elements:

- Volumes of materials excavated from the site.
- Validation testing in accordance with the Local Authority Guidelines '*Verification Requirements for Cover Systems, Technical Guidance for developers, Landowners and Consultants'* (Yorkshire and Lincolnshire Pollution Advisory Council Version 4.1 – June 2021). It is recommended to do all validation testing **prior** to the emplacement of topsoil in landscaped areas.
- A minimum of 1no. pit per area of landscaping should be excavated.
- Should the topsoil not have already been validated at this point, topsoil samples will be retrieved during the clean cover thickness verification for testing.
- Clean cover thickness with photographic evidence
- Evidence of waste disposal records.
- Confirmation of haulier and disposal facilities.
- Records of environmental issues.
- Diary/log sheets of Part time supervision/visits by suitably qualified Engineer.

The contractor will be responsible for providing the necessary site information for use in the Validation Report. This will include volumes of materials, waste disposal records, surveys for base digs etc.

5.1 Soils Analysis

Based on the findings presented within the Site Investigation Report; as part of the validation works the clean cover system materials will undergo the following suite of testing:

- Inorganic determinants (metals, semi-metals and non-metals)
- TPHCWG
- Speciated PAH
- Phenol
- pH
- Organic Matter Content
- Asbestos and Asbestos Quantification

Soil test results will then be compared against a series of LQM/CIEH Suitable 4 Use Levels (S4UL). Results from the residential gardens will be compared to thresholds based on a commercial land use. The latest LQM/CIEH S4UL were published in 2015.

In the absence of LQM/CIEH S4UL, Category 4 Screening Levels (March 2014), EA CLEA Thresholds (from Version 1.06, May 2011) and EA Lower Tier Threshold values shall be adopted.

The S4UL threshold value tables are shown in Appendix B.

SOLMEK

APPENDIX A

SOLMEK
12-16 Yarm Road, Stockton on Tees, TS18 3NA
Tel: 01642 607083 Email: info@solmek.com

Figure Title

Site Boundary

Project Number

S240420

Project Name

Milnsbridge, Huddersfield

Client

Dempsey and Gannon

Date

June 2024

DRG Number

Figure 1

Scale

1:1000 @ A4 [DO NOT SCALE]

Legend Key

Project Bounds - Project Bounds

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Figure Title

Site Investigation Plan

Project Number

S240420

Project Name

Milnsbridge, Huddersfield

Client

Dempsey and Gannon

Date

June 2024

DRG Number

Figure 2

Scale

1:1000 @ A4 [DO NOT SCALE]

Legend Key

- Locations By Type - Empty
- Locations By Type - BH
- Locations By Type - TP
- Project Bounds - Project Bounds

APPENDIX B

SOLMEK
12-16 Yarm Road
Stockton on Tees
TS18 3NA
01642 607083
info@solmek.com

Borehole Log

Scale 1:50 Sheet 1 of 1

BH01

Contract no:	S240420	**Site:**	Milnsbridge, Huddersfield	**Driller:**	BBL
				Plant used:	Small Percussive
				Started:	09/05/2024
Client:	Dempsey and Gannon			**Ended:**	09/05/2024
Method:	Small Percussive			**Backfilled:**	09/05/2024

GL (AOD):		
Easting:	411268	
Northing:	416055	
Logged:	SD	
Status:	FINAL	

Backfill / Installation	Legend	Depth (m)	Level (m AOD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
		0.30		MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.			
		0.72		SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.	0.70 - 0.74	SPT (S)	N=50+ (25 for 10mm/50 for 20mm)
				End of Borehole at 0.720m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	1.2m Hand excavated inspection pit dug. No groundwater encountered.	From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Stockton on Tees
TS18 3NA
01642 607083
info@solmek.com

Borehole Log

Scale 1:50 Sheet 1 of 1

BH02

Contract no:	S240420	**Site:**	Milnsbridge, Huddersfield	**Driller:**	BBL
				Plant used:	Small Percussive
				Started:	09/05/2024
Client:	Dempsey and Gannon			**Ended:**	09/05/2024
Method:	Small Percussive			**Backfilled:**	09/05/2024

GL (AOD):	
Easting:	411255
Northing:	416088
Logged:	SD
Status:	FINAL

Backfill / Installation	Legend	Depth (m)	Level (m AOD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
		0.40		MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.			
G		0.73		SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.	0.70 - 0.88	SPT (S)	N=50+ (6,9/50 for 30mm)
				End of Borehole at 0.730m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	1.2m Hand excavated inspection pit dug. No groundwater encountered.	From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Stockton on Tees
TS18 3NA
01642 607083
info@solmek.com

Borehole Log

Scale 1:50 Sheet 1 of 1

BH03

Contract no:	S240420	**Site:**	Milnsbridge, Huddersfield	**Driller:**	BBL
				Plant used:	Small Percussive
				Started:	09/05/2024
Client:	Dempsey and Gannon			**Ended:**	09/05/2024
Method:	Small Percussive			**Backfilled:**	09/05/2024

GL (AOD):	
Easting:	411313
Northing:	416095
Logged:	SD
Status:	FINAL

Backfill / Installation	Legend	Depth (m)	Level (m AOD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.	0.00 - 0.50	D	
					0.50 - 1.00	D	
					1.00 - 1.50	D	
					1.20 - 1.60	SPT (S)	N=50+ (6,9/10,12,13,15 for 25mm)
					1.20 - 1.60	D	
		1.60		End of Borehole at 1.600m	1.60	D	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	1.2m Hand excavated inspection pit dug. No groundwater encountered.	From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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12-16 Yarm Road
Stockton on Tees
TS18 3NA
01642 607083
info@solmek.com

Borehole Log

Scale 1:50 Sheet 1 of 1

BH04

Contract no:	S240420	**Site:**	Milnsbridge, Huddersfield	**Driller:**	BBL
				Plant used:	Small Percussive
				Started:	09/05/2024
Client:	Dempsey and Gannon			**Ended:**	09/05/2024
Method:	Small Percussive			**Backfilled:**	09/05/2024

GL (AOD):	
Easting:	411300
Northing:	416117
Logged:	SD
Status:	FINAL

Backfill / Installation	Legend	Depth (m)	Level (m AOD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.	0.00 - 0.30	D	
		0.30			0.30 - 0.60	D	
					0.60 - 1.00	D	
				SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.	1.00 - 1.80	D	
					1.20 - 1.65	SPT (S)	N=15 (5,5/4,4,3,4)
					1.20 - 1.65	D	
					1.80 - 2.20	SPT (S)	N=50+
		2.00			1.80 - 2.00	D	(9,10/12,13,9,16 for 25mm)
				End of Borehole at 2.000m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
				1.2m Hand excavated inspection pit dug. No groundwater encountered.								

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12-16 Yarm Road
Stockton on Tees
TS18 3NA
01642 607083
info@solmek.com

Borehole Log

Scale 1:50 Sheet 1 of 1

BH05

Contract no:	S240420	**Site:**	Milnsbridge, Huddersfield	**Driller:**	BBL
				Plant used:	Small Percussive
				Started:	09/05/2024
Client:	Dempsey and Gannon			**Ended:**	09/05/2024
Method:	Small Percussive			**Backfilled:**	09/05/2024

GL (AOD):	
Easting:	411356
Northing:	416140
Logged:	SD
Status:	FINAL

Backfill / Installation	Legend	Depth (m)	Level (m AOD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.	0.00 - 0.50	D	
		0.50		SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.	0.50 - 0.75	D	
					0.90 - 1.20	D	
	G				1.20 - 1.65	SPT (S)	N=22 (4,5/6,6,5,5)
					1.20 - 1.60	D	
					1.20 - 1.65	D	
					1.60 - 2.00	D	
		2.00		End of Borehole at 2.000m	2.00 - 2.24	SPT (S)	N=50+ (11,14/16,34 for 20mm)
					2.00	D	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	1.2m Hand excavated inspection pit dug. No groundwater encountered.	From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

SOLMEK
Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP01
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411274E - 416063N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 1.10	1.60 × 0.60
Client:	Dempsey and Gannon		

Date: 09/05/2024
Scale: 1:26
Logged: SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES		0.30			MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.
	0.40 - 0.50	B+ES		0.50			MADE GROUND: Orange gravelly slightly clayey Sand with high cobble content. Sand is fine to coarse grained, gravel is fine to coarse grained angled to sub-angled of sandstone, limestone, brick fragments, coal and concrete. Cobbles are angled to sub-angled of sandstone and concrete.
	0.80 - 0.90	B+ES		1.10			SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.
							End of Pit at 1.100m

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

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Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP02
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411254E - 416079N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 0.90	1.10 × 0.60
Client:	Dempsey and Gannon		

Date: 09/05/2024
Scale: 1:26
Logged: SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES		0.30			MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.
	0.50 - 0.60	B+ES		0.90			SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.
							End of Pit at 0.900m

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

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Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP03
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411285E - 416077N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 1.90	1.90 × 0.60
Client:	Dempsey and Gannon		

Date: 09/05/2024
Scale: 1:26
Logged: SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES					MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with high cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, fabric, glass, metal, plastic, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete, tyres and paving slabs. Sulphurous Odour noted from 0.60 - 0.80mbgl.
	0.60 - 0.70	B+ES					
	1.00 - 1.10	B+ES					
				1.30			
	1.40 - 1.50	B+ES					SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.
				1.90			End of Pit at 1.900m

1
2
3
4
5

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

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Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP04
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411306E - 416088N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 3.50	2.40 × 0.85
Client:	Dempsey and Gannon		

Date: 09/05/2024
Scale: 1:26
Logged: SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES					MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with high cobble content and low boulder content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, fabric, glass, metal, plastic, roots, slate, tile, wood, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, carpet, concrete with rebar, concrete siding panels, doors, tyres and paving slabs. Boulders are angled to sub-rounded of sandstone blocks and concrete. Sulphurous Odour noted from 0.40mbgl
	0.40 - 0.50	ES					
	0.90 - 1.00	ES					
	1.40 - 1.50	ES					
	1.90 - 2.00	ES					
	2.40 - 2.50	ES					
	2.90 - 3.00	ES					
	3.40 - 3.50	ES					
				3.50			End of Pit at 3.500m

1
2
3
4
5

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

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Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP05
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411290E - 416106N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 2.00	2.00 × 0.60
Client:	Dempsey and Gannon		

Date: 09/05/2024
Scale: 1:26
Logged: SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES		0.30			MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.
	0.40 - 0.50	B+ES					SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.
	0.90 - 1.00	B					
	1.90 - 2.00	B		2.00			End of Pit at 2.000m

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

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Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP06
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411314E - 416123N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 1.30	1.60 × 0.60
Client:	Dempsey and Gannon		Date 09/05/2024 Scale 1:26 Logged SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES		0.30			MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.
	0.50 - 0.60	B+ES					SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.
	1.10 - 1.20	B		1.30			End of Pit at 1.300m

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

SOLMEK
Solmek Ltd
12-16 Yarm Road
Stockton on Tees
TS18 3NA
Tel: 01642 607083
Email: info@solmek.com

Trial Pit Log

TrialPit No
TP07
Sheet 1 of 1

Project Name:	Milnsbridge, Huddersfield	Project No. S240420	Co-ords: 411338E - 416132N Level:
Plant Used:	JCB 3CX	Dimensions (m): Depth 1.75	1.80 × 0.60
Client:	Dempsey and Gannon		

Date: 09/05/2024
Scale: 1:26
Logged: SD

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	B+ES		0.30			MADE GROUND: Brown to dark brown gravelly slightly clayey Sand with low cobble content. Sand is fine to coarse grained with some ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, ceramics, coal, concrete, glass, metal, slate, tile, and slag-like material. Cobbles are angled to sub-angled of sandstone, bricks, concrete and paving slabs.
	0.40 - 0.50	B+ES		0.70			MADE GROUND: Brown becoming black slightly gravelly slightly clayey Sand. Sand is fine to coarse grained with ash and coal dust. Gravel is fine to coarse grained, angled to sub-angled of sandstone, limestone, brick fragments, clinker, coal, concrete, and slag-like material.
	0.90 - 1.00	B+ES					SUSPECTED SANDSTONE BEDROCK - RECOVERED AS Orange slightly gravelly clayey SAND with high cobble content. Sand is fine to coarse grained. Gravel is fine to coarse grained, angled to sub-rounded of sandstone. Cobbles are angled to sub-angled of sandstone.
	1.50 - 1.60	B		1.75			End of Pit at 1.750m

Remarks: No groundwater encountered.

Stability: Unstable in made ground, slightly instability in natural.

TP01 - Pit

TP01 - Spoil

Title	**Date**
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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TP02 - Pit

TP02 - Spoil

Title	**Date**
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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TP03 - Pit

TP03 - Spoil

Title	**Date**
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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TP04 - Pit

TP04 - Spoil

Title	**Date**
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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TP05 - Pit

TP05 - Spoil

Title	Date
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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TP06 - Pit

TP06 - Spoil

Title	**Date**
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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TP07 - Pit

TP07 - Spoil

Title	Date
TP Photos	June 2024
Project	
Milnsbridge, Huddersfield	
Client	
Dempsey & Gannon	

Solmek Ltd.
12 Yarm Road
Stockton-on-Tees
TS18 3NA

Tel: +44 (0) 1642 607083
Fax: +44 (0) 1642 612355
e-mail: south@solmek.com
www.solmek.com

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APPENDIX C

Certificate of Analysis

Certificate Number	24-10279	*Issued:*	29-May-24

Client SOLMEK
12 Yarm Road
Stockton On Tees
Cleveland
TS18 3NA

Our Reference	24-10279
Client Reference ~	S240420
Order No ~	SOL8396
Contract Title ~	MILNSBRIDGE, HUDDERSFIELD
Description	6 Soil samples.
Date Received	20-May-24
Date Started	20-May-24
Date Completed	29-May-24
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

MCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

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UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 24-10279
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

Sample ID	Depth	Lab No	Completed	Matrix Description
TP01	0.40-0.50	2339953	29/05/2024	Dark brown slightly gravelly, sandy CLAY
TP02	0.10-0.20	2339954	29/05/2024	Dark grey very gravelly SAND
TP03	1.00-1.10	2339955	29/05/2024	Dark brown gravelly, sandy CLAY (Possible made ground - slag)
TP04	0.90-1.00	2339956	29/05/2024	Dark brown gravelly, sandy CLAY (Possible made ground - slag)
TP06	0.10-0.20	2339957	29/05/2024	Dark brown gravelly, sandy CLAY
TP07	0.40-0.50	2339958	29/05/2024	Dark brown gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 24-10279
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

			Lab No	2339953	2339954	2339955	2339956	2339957	2339958
			Sample ID ~	TP01	TP02	TP03	TP04	TP06	TP07
			Depth ~	0.40-0.50	0.10-0.20	1.00-1.10	0.90-1.00	0.10-0.20	0.40-0.50
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	09/05/2024	09/05/2024	09/05/2024	09/05/2024	09/05/2024	09/05/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	5.9	6.2	28	26	15	29
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.6	0.8	2.2	1.4	0.4	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	0.3	0.1	0.2	0.2	0.3
Chromium	DETSC 2301#	0.15	mg/kg	20	74	410	99	37	27
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	57	39	820	270	82	130
Lead	DETSC 2301#	0.3	mg/kg	24	52	130	110	73	150
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.06	0.10	0.10	0.23
Nickel	DETSC 2301#	1	mg/kg	13	11	2000	85	110	36
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	50	87	270	200	91	130
Inorganics									
pH	DETSC 2008#		pH	7.8	10.8	8.3	8.1	7.8	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.0	5.5	2.0	6.2	4.2	4.7
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	75	110	61	410	66	87
Petroleum Hydrocarbons									
Aliphatic C5-C6: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16: EH_CU_1D_AL	DETSC 3072#	1.2	mg/kg	< 1.2	6.6	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg	< 1.5	17	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35: EH_CU_1D_AL	DETSC 3072#	3.4	mg/kg	< 3.4	150	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C35-C40: EH_CU_1D_AL	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C40: EH_CU+HS_1D_AL	DETSC 3072*	10	mg/kg	< 10	170	< 10	< 10	< 10	< 10
Aromatic C5-C7: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12: EH_CU_1D_AR	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16: EH_CU_1D_AR	DETSC 3072#	0.5	mg/kg	< 0.5	4.1	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21: EH_CU_1D_AR	DETSC 3072#	0.6	mg/kg	9.7	65	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35: EH_CU_1D_AR	DETSC 3072#	1.4	mg/kg	39	470	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C35-C40: EH_CU_1D_AR	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C40: EH_CU+HS_1D_AR	DETSC 3072*	10	mg/kg	48	540	< 10	< 10	< 10	< 10
TPH Ali/Aro C5-C40: EH_CU+HS_1D_Total	DETSC 3072*	10	mg/kg	48	710	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 2.0	< 0.1	1.2	0.2	0.2
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 2.0	< 0.1	< 0.1	< 0.1	0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	0.1	29	0.3	1.7	0.2	0.4
Fluorene	DETSC 3301	0.1	mg/kg	0.1	26	0.3	1.3	0.2	0.4

Summary of Chemical Analysis
Soil Samples

Our Ref 24-10279
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

			Lab No	2339953	2339954	2339955	2339956	2339957	2339958
			Sample ID ~	TP01	TP02	TP03	TP04	TP06	TP07
			Depth ~	0.40-0.50	0.10-0.20	1.00-1.10	0.90-1.00	0.10-0.20	0.40-0.50
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	09/05/2024	09/05/2024	09/05/2024	09/05/2024	09/05/2024	09/05/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Phenanthrene	DETSC 3301	0.1	mg/kg	0.5	160	2.0	11	1.0	1.9
Anthracene	DETSC 3301	0.1	mg/kg	0.7	62	0.5	3.0	0.2	0.5
Fluoranthene	DETSC 3301	0.1	mg/kg	2.4	330	3.0	14	1.4	3.5
Pyrene	DETSC 3301	0.1	mg/kg	2.7	290	2.7	12	1.2	3.5
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	1.5	150	1.5	6.0	0.6	1.9
Chrysene	DETSC 3301	0.1	mg/kg	1.6	140	1.5	6.2	0.7	2.0
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	1.4	100	1.0	4.4	0.5	1.4
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.9	67	0.6	2.8	0.3	0.8
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	2.3	160	1.6	6.2	0.7	1.9
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	1.3	90	0.8	3.6	0.4	1.2
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	16	0.1	0.5	< 0.1	0.2
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	1.4	84	0.8	3.6	0.4	1.2
PAH 16 Total	DETSC 3301	1.6	mg/kg	17	1700	17	77	7.9	21
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.4	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-10279
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2339953	TP01 0.40-0.50	SOIL	NAD	none	Ben Barsby
2339954	TP02 0.10-0.20	SOIL	NAD	none	Ben Barsby
2339955	TP03 1.00-1.10	SOIL	Chrysotile	Chrysotile present as fibre bundles	Ben Barsby
2339956	TP04 0.90-1.00	SOIL	NAD	none	Ben Barsby
2339957	TP06 0.10-0.20	SOIL	NAD	none	Ben Barsby
2339958	TP07 0.40-0.50	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-10279
Client Ref ~ S240420
Contract ~ MILNSBRIDGE, HUDDERSFIELD

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2339953	TP01 0.40-0.50 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	BTEX / C5-C10
2339954	TP02 0.10-0.20 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	BTEX / C5-C10
2339955	TP03 1.00-1.10 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	BTEX / C5-C10
2339956	TP04 0.90-1.00 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	BTEX / C5-C10
2339957	TP06 0.10-0.20 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	BTEX / C5-C10
2339958	TP07 0.40-0.50 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	BTEX / C5-C10

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det	Acronym
Aliphatic C5-C6	HS_1D_AL

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-10279	*Issued:*	29-May-24

Client SOLMEK
12 Yarm Road
Stockton On Tees
Cleveland
TS18 3NA

Our Reference	24-10279
Client Reference ~	S240420
Order No ~	SOL8396
Contract Title ~	MILNSBRIDGE, HUDDERSFIELD
Description	5 Soil samples.
Date Received	20-May-24
Date Started	20-May-24
Date Completed	29-May-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

ilac-MRA

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 24-10279
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

Sample ID	Depth	Lab No	Completed	Matrix Description
BH04	1.00-1.80	2339959	29/05/2024	Brown very gravelly SAND including odd rootlets
BH05	2	2339960	29/05/2024	Brown very gravelly SAND
TP01	0.80-0.60	2339961	29/05/2024	Brown sandy, very gravelly CLAY
TP02	0.40-0.30	2339962	29/05/2024	Brown gravelly, sandy CLAY
TP05	0.40-0.60	2339963	29/05/2024	Brown gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 24-10279
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

				Lab No	2339959	2339960	2339961	2339962	2339963
				Sample ID ~	BH04	BH05	TP01	TP02	TP05
				Depth ~	1.00-1.80	2.00	0.80-0.60	0.40-0.30	0.40-0.60
				Other ID ~					
				Sample Type ~	D	D	D	D	D
				Sampling Date ~	09/05/2024	09/05/2024	09/05/2024	09/05/2024	09/05/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s
Test	**Method**		**LOD**	**Units**					
Inorganics									
pH	DETSC 2008#			pH	8.0	8.0	7.8	5.2	7.9
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#		10	mg/l	52	27	34	74	74

Information in Support of the Analytical Results

Our Ref 24-10279
Client Ref ~ S240420
Contract ~ MILNSBRIDGE, HUDDERSFIELD

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2339959	BH04 1.00-1.80 SOIL	09/05/24	GJ 250ml, PT 1L	pH + Conductivity (7 days)	
2339960	BH05 2.00 SOIL	09/05/24	GJ 250ml, PT 1L	pH + Conductivity (7 days)	
2339961	TP01 0.80-0.60 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	
2339962	TP02 0.40-0.30 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	
2339963	TP05 0.40-0.60 SOIL	09/05/24	GJ 250ml, PT 1L x2	pH + Conductivity (7 days)	

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det	Acronym
Aliphatic C5-C6	HS_1D_AL

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-11243	*Issued:*	06-Jun-24

Client SOLMEK
12 Yarm Road
Stockton On Tees
Cleveland
TS18 3NA

Our Reference	24-11243
Client Reference ~	S240420
Order No ~	SOL8396
Contract Title ~	MILNSBRIDGE, HUDDERSFIELD
Description	One Soil sample.
Date Received	20-May-24
Date Started	03-Jun-24
Date Completed	06-Jun-24
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Asbestos Analysis

Samples

Our Ref 24-11243
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

Lab No	Sample ID	Sample Location	Material Type	Result	Comment*	Analyst

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 24-11243
Client Ref ~ S240420
Contract Title ~ MILNSBRIDGE, HUDDERSFIELD

			Lab No	2345392
			Sample ID ~	TP03
			Depth ~	1.00-1.10
			Other ID ~	
			Sample Type ~	ES
			Sampling Date ~	09/05/2024
			Sampling Time ~	
Test	**Method**	**Units**		
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %		**0.005**
Gravimetric Quantification (a)	DETSC 1102	Mass %		na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %		0.005
Quantification by PCOM (c)	DETSC 1102	Mass %		na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g		na
Breakdown of Gravimetric Analysis (a)				
Mass of Sample		g		803.36
ACMs present*		type		
Mass of ACM in sample		g		
% ACM by mass		%		
% asbestos in ACM		%		
% asbestos in sample		%		
Breakdown of Detailed Gravimetric Analysis (b)				
% Amphibole bundles in sample		Mass %		na
% Chrysotile bundles in sample		Mass %		0.005
Breakdown of PCOM Analysis (c)				
% Amphibole fibres in sample		Mass %		na
% Chrysotile fibres in sample		Mass %		na
Breakdown of Potentially Respirable Fibre Analysis (d)				
Amphibole fibres		Fibres/g		na
Chrysotile fibres		Fibres/g		na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 24-11243
Client Ref ~ S240420
Contract ~ MILNSBRIDGE, HUDDERSFIELD

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2345392	TP03 1.00-1.10 SOIL	09/05/24	GJ 250ml, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX D

Laboratory Report Front Sheet

Site name	Job number
Milnsbridge, Huddersfield	S240420

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 033318
info@g2mtesting.co.uk

UKAS TESTING
10258

Client details:

Reference:	S240420
Name:	Solmek
Address:	12 Yarm Road, Stockton-on-tees, TS18 3NA
Telephone:	01642 607083
Email:	lcassidy@solmek.com
FAO:	Leo Cassidy

Samples received: 16/05/2024

Date commenced: 21/05/2024

Date reported: 29/05/2024

Observations and interpretations are outside of the UKAS Accreditiation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Samples will be held at the laboratory for a period of 4 weeks after the report date. After the above reporting date the samples will be disposed of. Should further testing be required then the office should be informed before the above date.

Signature:	Approved Signitories:
J Brischuk.	☐ D.Anderson (Managing Director) ☑ J. Brischuk (Laboratory Manager) ☐

Summary of Classification Tests

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 033318
info@g2mtesting.co.uk

UKAS TESTING
10258

Site name	Job number
Milnsbridge, Huddersfield	S240420

Hole	Depth Top m	Depth Base m	Type	*w* %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
TP Composite	0.00		B	4.9	105									

All tests found in G2M Testing UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	JBrischuk
Approval date	29/05/2024 08:31
Date report generated	
Report Number	

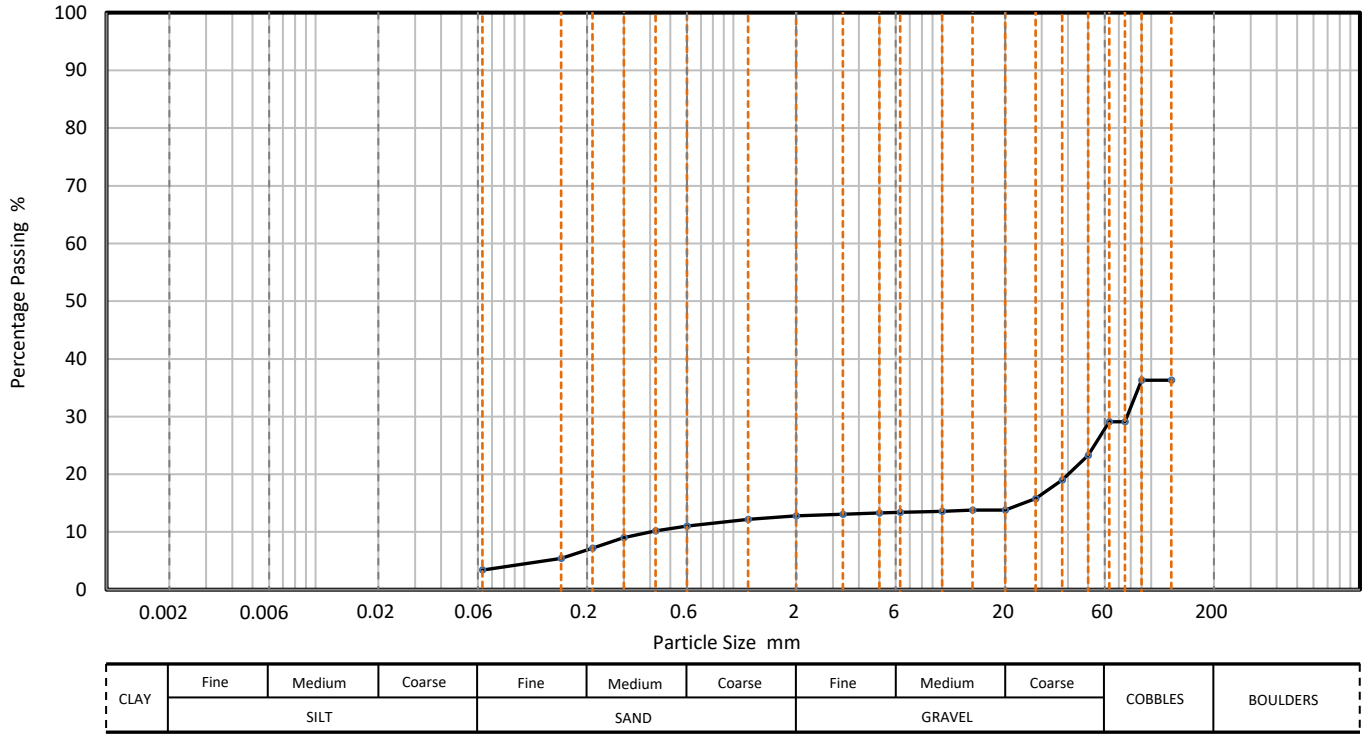
PARTICLE SIZE DISTRIBUTION

Site name	Job number
Milnsbridge, Huddersfield	S240420

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 033318
info@g2mtesting.co.uk

UKAS TESTING
10258

Hole		TP Composite	Lab sample ID	G2MT2024052231
Depth (Top)	m	0.00	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base)	m		Soil Description	Slightly Clayey, Sandy, Gravelly, COBBLES
Sample type		B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	36		
90	36		
75	29		
63	29		
50	23		
37.5	19		
28	16		
20	14		
14	14		
10	14		
6.3	13		
5	13		
3.35	13		
2	13		
1.18	12		
0.6	11		
0.425	10		
0.3	9		
0.212	7		
0.15	5		
0.063	3		

Dry Mass of sample, g	14963

Sample Proportions	% dry mass
Very coarse	70.9
Gravel	16.3
Sand	9.4
Fines <0.063mm	3.0

Grading Analysis		
D100	mm	
D60	mm	
D30	mm	76.8
D10	mm	0.4
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	JBrischuk
Approval date	29/05/2024 08:30

APPENDIX E

UK BACKGROUND

Environmental Protection Act 1990: Part 2A Revised Statutory Guidance (April 2012)

This revised document explains how the Local Authority should decide if land, based on a legal interpretation, is contaminated. The document replaces the previous guidance given in Annex 3 of DEFRA Circular 01/2006, issued in accordance with section 78YA of the 1990 Environmental Protection Act.

The main objectives of the Part 2A regime are to *"identify and remove unacceptable risks to human health and the environment" and* to *"seek to ensure that contaminated land is made suitable for its current use".*

Part 2A uses a risk based approach to defining contaminated land whereby the "risk" is interpreted as *"the likelihood that harm, or pollution of water, will occur as a result of contaminants in, on or under the land"* and by *"the scale and seriousness of such harm or pollution if it did occur".*

For a relevant risk to exist a contaminant, pathway and receptor linkage must be present before the land can be considered to be contaminated. The document explains that *"for a risk to exist there must be contaminants present in, on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might significantly harm people, the environment, or property; or significantly pollute controlled waters."*

A conceptual model is used to develop and communicate the risks associated with a particular site.

To determine if land is contaminated the local authority use various categories from 1 to 4. Categories 1 and 2 include *"land which is capable of being determined as contaminated land on grounds of significant possibility of significant harm to human health."*

Categories 3 and 4 *"encompass land which is not capable of being determined on such grounds".*

PRELIMINARY CONCEPTUAL MODEL

Preliminary Conceptual Models are undertaken in accordance with CIRIA C552. The Preliminary Conceptual Model assesses the consequence and the likelihood of a risk being realised to provide a risk classification, using the tables detailed below.

CONSEQUENCE OF RISK BEING REALISED (Based on C552 CIRIA, 2001)

Classification	Definition	Example
Severe	Short-term (acute) risk to human health, the environment, an element of the development or other aspect with is likely to result in *significant harm*, damage or both.	High concentrations of cyanide on the surface of an informal recreational area. Major spills of contaminants from site into controlled water. High concentrations of explosive gas in the subsurface environment that have a clear unobstructed pathway into buildings.
Moderate	Chronic damage to human health, a plausible chance that an event will occur, although the timeline is not immediate to be in the short-term.	Appreciable concentration of contamination that over the longer-term will cause significant harm i.e. high lead concentration in topsoil. Shallow mine workings that are potentially unstable but may remain in a satisfactory or stable conditions for a number of years.
Mild	Low level pollution of non-sensitive water, a feasible hazardous scenario although the timeline of such occurring can probably be considered in 10's of years.	The effect of high sulphate concentrations on structural concrete. Pollution of non-classified groundwater.
Minor	Harm, although not necessarily significant to human health, or with respect to other aspects of the development, which are considered implausible in terms of occurrence, or will have little consequential impact.	The presence of contaminants at such low concentrations that protective equipment is required during site works. Any damage to structures is minimal and will not be structural in characteristics.

PROBABILITY OF RISK BEING REALISED (C552 CIRIA, 2001)

Classification	Definition
High Likelihood	There is a viable pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence that the receptor has been harmed or polluted.
Likely	There is a viable pollutant linkage and all elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a viable pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a viable pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

RISK CLASSIFICATION MATRIX (C552 CIRIA, 2001)

Risk = Probability x Consequence		Consequence			
		Severe	Moderate	Mild	Minor
Probability	High likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

HUMAN RECEPTORS

Human exposure to contaminants present in soils can occur via several pathways. Direct exposure pathways include dermal absorption after contact with contaminated ground, inhalation of soil or dust, inhalation of volatised compounds, and inadvertent soil ingestion (or deliberate soil ingestion in the case of some children). Other indirect pathways include human ingestion of plants grown in contaminated soil or contaminated ground or surface water. Contaminants associated with wind blown dust can affect humans on surrounding sites.

VEGETATION

Plants can be affected by soil contamination in a number of ways resulting in growth inhibition, nutrient deficiencies and yellowing of leaves. Contaminants are taken up by plants through the roots and through foliage. Contaminants identified as being highly phytotoxic include boron, cadmium, copper, lead, nickel, and zinc.

To establish if the levels of contaminants present on a site may pose a risk to vegetation the results of the contamination testing are compared to a series of threshold values published in 'Code of Good Agricultural Practice for the Protection of Soil'.

GROUNDWATER AND SURFACE WATER RECEPTORS

The principal pathway by which soil contamination may reach the water environment is through a slow seepage or leaching to groundwater or surface water. The potential for contaminants to migrate along such pathways is dependent on the chemical and physical characteristics of the contaminants and the local hydrogeology. Surface watercourses may also accumulate contamination as contaminated sediments are deposited within the water body.

Where the site investigated overlies major/principal aquifers (and in some cases minor/secondary aquifers depending on certain conditions), groundwater Source Protection Zones and areas in close proximity to groundwater abstractions, contamination test results have been compared with the Water Supply (Water Quality) Regulations 1989 and The Water Supply (Water Quality) Regulations 2000.

Should a surface water receptor, such as a fresh water environment (river, canal, stream, lake etc), or marine environment be considered sensitive in relation to a site, then test results are compared with DEFRA & SEPA Environmental Quality Standards (2004). Many of the Environmental Quality Standards are hardness ($CaCO_3$) depended. Where no hardness values are available, Solmek assume conservative values (of between 0 and 50mg/l).

In the absence of vulnerable ground and surface water environments, Solmek may compare any test results with the Environment Agency Leachate Quality Threshold Values.

DETAILED QUANTITATIVE RISK ASSESSMENT (DQRA)

In line with Environment Agency's guidance document Environment Agency *Land Contamination Risk Management*, which replaced the now-withdrawn *Contaminated Land Report 11 – Model Procedures for the Management of Land Contamination (2004)*, a DQRA for groundwater/human health may be required following a Phase 2 investigation and before the preparation of a Phase 3 Remediation Strategy. For human health DQRA, a site specific assessment criteria is undertaken using CLEA Software Version 1.06. For groundwater DQRA, the Environment Agency Remedial Targets Worksheet Version 3.1 is used.

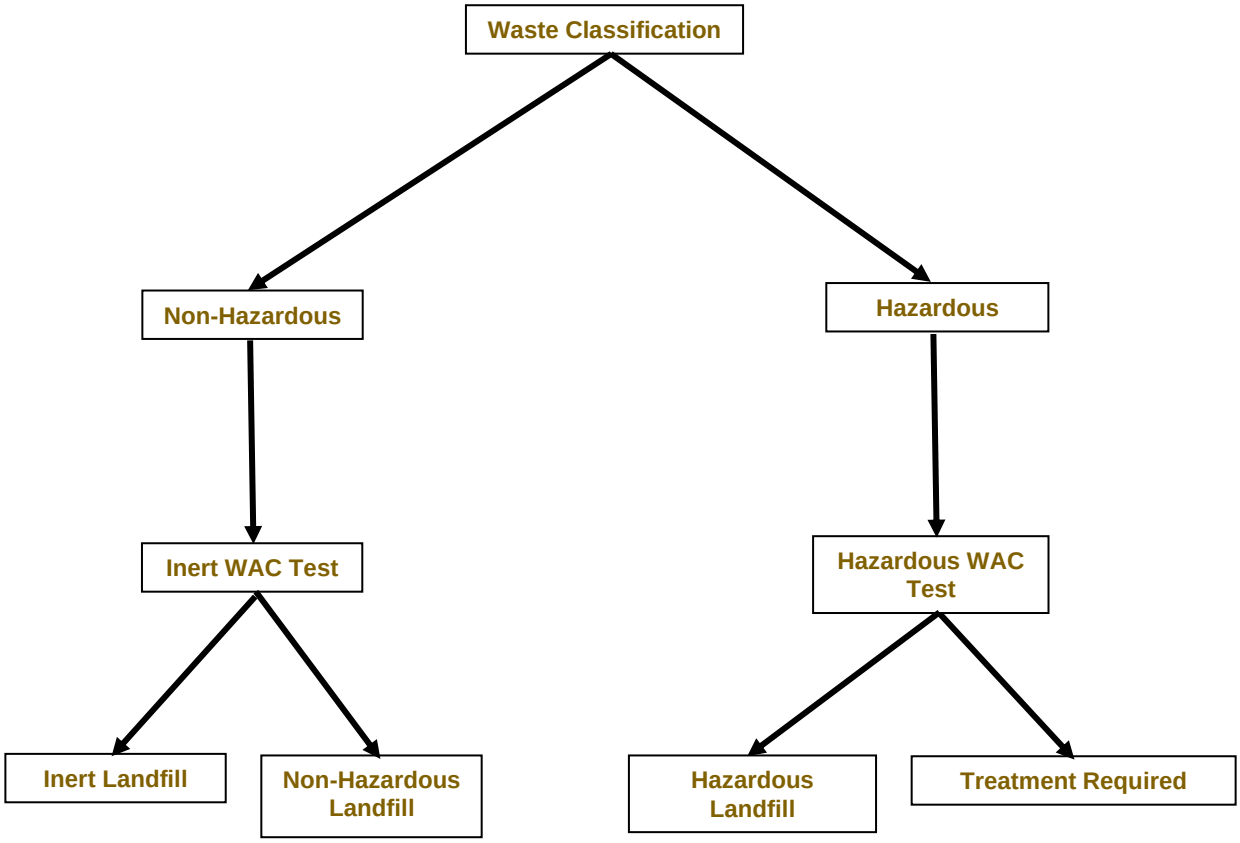
WASTE CLASSIFICATION AND WASTE ACCEPTANCE CRITERIA

During the site strip and construction activities, material may be required to be removed from site. Any such material would require classification, in line with Environment Agency Technical Guidance *Waste Classification: Guidance on the classification and assessment of waste (2015)*. This would classify the material as either Non-Hazardous or Hazardous Waste.

Once the material has been classified, determining the suitable landfill for disposal is governed by landfill directive Waste Acceptance Criteria (WAC) testing, with landfills categorized as Inert Waste, Stable Non-Reactive Hazardous Waste and Hazardous Waste. The WAC testing relates to materials that are to be exported from a site/development to landfill, and do not directly relate to human health specifically. The testing results are generally presented as certificates which can be used by site owners/contractors etc, which should be presented to the accepting waste facility or waste contractor.

If waste classification and/or WAC testing are not undertaken, material taken off site may be subject to WAC testing by the appropriate waste disposal company. The decision on whether or not to accept waste, or whether further testing is required, is at the discretion of the waste disposal company.

The below flow chart provides further information on the waste classification process.



CONSTRUCTION MATERIALS

Materials at risk from possible soil contaminants include inorganic matrices such as cement and concrete and also organic material such as plastics and rubbers. Acid ground conditions and high levels of sulphates can accelerate the corrosion of building materials. Where pH and soluble sulphate analysis has been undertaken, Solmek compare the test results with the guidelines presented within BRE Special Digest 1, 2005 (3rd Edition) 'Concrete in Aggressive Ground'. Plastics and rubbers are generally used for piping and service ducts and are potentially attacked by a range of chemicals, most of which are organic, particularly petroleum based substances. Drinking water supplies can be tainted by substances that can penetrate piping and water companies enforce stringent threshold values.

The levels of potential contaminants should be compared to thresholds supplied in the UK Water Industry Research (UKWIR) publication "Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites" (January 2011). A Brownfield Site is defined in the document as "Land or premises that have not previously been used or developed that may be vacant or derelict". It should be noted that Brownfield sites may not be contaminated. The guidance does not apply to Greenfield Sites however water companies may have their own assessment criteria which should be checked by the developer. The table below outlines the pipe material selection threshold concentrations.

	Pipe Material (Threshold concentrations in mg/kg)					
Parameter group	**PE**	**PVC**	**Barrier pipe (PE-AL-PE)**	**Wrapped Steel**	**Wrapped Ductile Iron**	**Copper**
Extended VOC suite by purge and trap or head space and GC-MS with TIC	0.5	0.125	Pass	Pass	Pass	Pass
+ BTEX + MTBE	0.1	0.03	Pass	Pass	Pass	Pass
SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C5-C10)	2	1.4	Pass	Pass	Pass	Pass
+ Phenols	2	0.4	Pass	Pass	Pass	Pass
+ Cresols and chlorinated phenols	2	0.04	Pass	Pass	Pass	Pass
Mineral oil C11-C20	10	Pass	Pass	Pass	Pass	Pass
Mineral oil C21-C40	500	Pass	Pass	Pass	Pass	Pass
Corrosive (Conductivity, Redox and pH)	Pass	Pass	Pass	Corrosive if pH <7 and conductivity >400µS/cm	Corrosive if pH <5, Eh not neutral and conductivity >400µS/cm	Corrosive if pH <5 or >8 and Eh positive
Specific suite identified as relevant following site investigation						
Ethers	0.5	1	Pass	Pass	Pass	Pass
Nitrobenzene	0.5	0.4	Pass	Pass	Pass	Pass
Ketones	0.5	0.02	Pass	Pass	Pass	Pass
Aldehydes	0.5	0.02	Pass	Pass	Pass	Pass
Amines	Fail	Pass	Pass	Pass	Pass	Pass

REQUIREMENTS OF PARTIES WITHIN THE DEVELOPMENT PROCESS

Interested parties involved in the development process may use the data in different ways and there may be varying views and interpretation of the factual data. Local Authority staff may have a view on contamination and human health and the wider environment. The Environment Agency are concerned principally with the protection of Controlled waters. Building insurers, funders and purchasers may be primarily concerned with issues of potential commercial blight. Purchasers are also not always fully informed, and perceptions on issues associated with risk can affect the decision to purchase. Developers and construction organisations will focus on financial aspects of dealing with the contamination in the context of the development and construction programme.

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In simple terms, risks associated with contamination may be considered in terms of 1) statutory risks and 2) development related risks. If contamination is severe or forms a potential hazard based on its potential to affect groundwater, surface water or human health, a statutory risk may be present, and as such, if the risk is not reduced, criminal proceedings may be instigated by a government body or local authority.

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♣Solmek conditions of offer, notes on limitations & basis for contract (ref: version1/2024)

These conditions accompany our tender and supercede any previous conditions issued. Solmek will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3rd parties. The report, its content and format and associated data are copyright, and the property of Solmek. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from Solmek. A charge may be levied against such approval, the same to be made at the discretion of Solmek.

Solmek cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. Solmek are not responsible for the action negligent of otherwise of subcontractors or third parties.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, ground gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Solmek cannot be held liable for any unrecorded or unforeseen obstructions between exploratory boreholes and trial pits. This includes instances where previous structures on the site (buried man made structures) or the presence of boulder clay (cobbles and/or boulder obstructions) have been anticipated. All types of piling operations should make allowance for obstructions within the construction budget to accommodate this. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

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Where the type, number or/and depth of exploratory hole is specified by others, Solmek cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by Solmek in the course of investigation is the property of Solmek, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. Solmek reserve the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork. The presence or otherwise of Japanese Knotweed or other invasive plants can be difficult to identify especially during winter months. If Japanese Knotweed or other invasive species are suspect, it should be confirmed by an ecologist. We have not allowed for acquiring services information, and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning Solmek you understand and accept that you/your agent have a contractual relationship with Solmek & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Solmek are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete, and Solmek has not allowed for this. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming Solmek agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation, and will apply 8% to the base rate for unreasonably late payments. Solmek are exempt from the CIS Scheme. Solmek offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. Solmek are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by Solmek. Solmek give notice that consequential loss as a direct or indirect result of Solmek's activities or omission of the same are excluded.

APPENDIX A:
Figures & Drawings

SOLMEK

12-16 Yarm Road, Stockton on Tees, TS18 3NA
Tel: 01642 607083 Email: info@solmek.com

Figure Title

Site Location Plan

Project Number

S240420

Project Name

Milnsbridge, Huddersfield

Client

Dempsey and Gannon

Date

June 2024

DRG Number

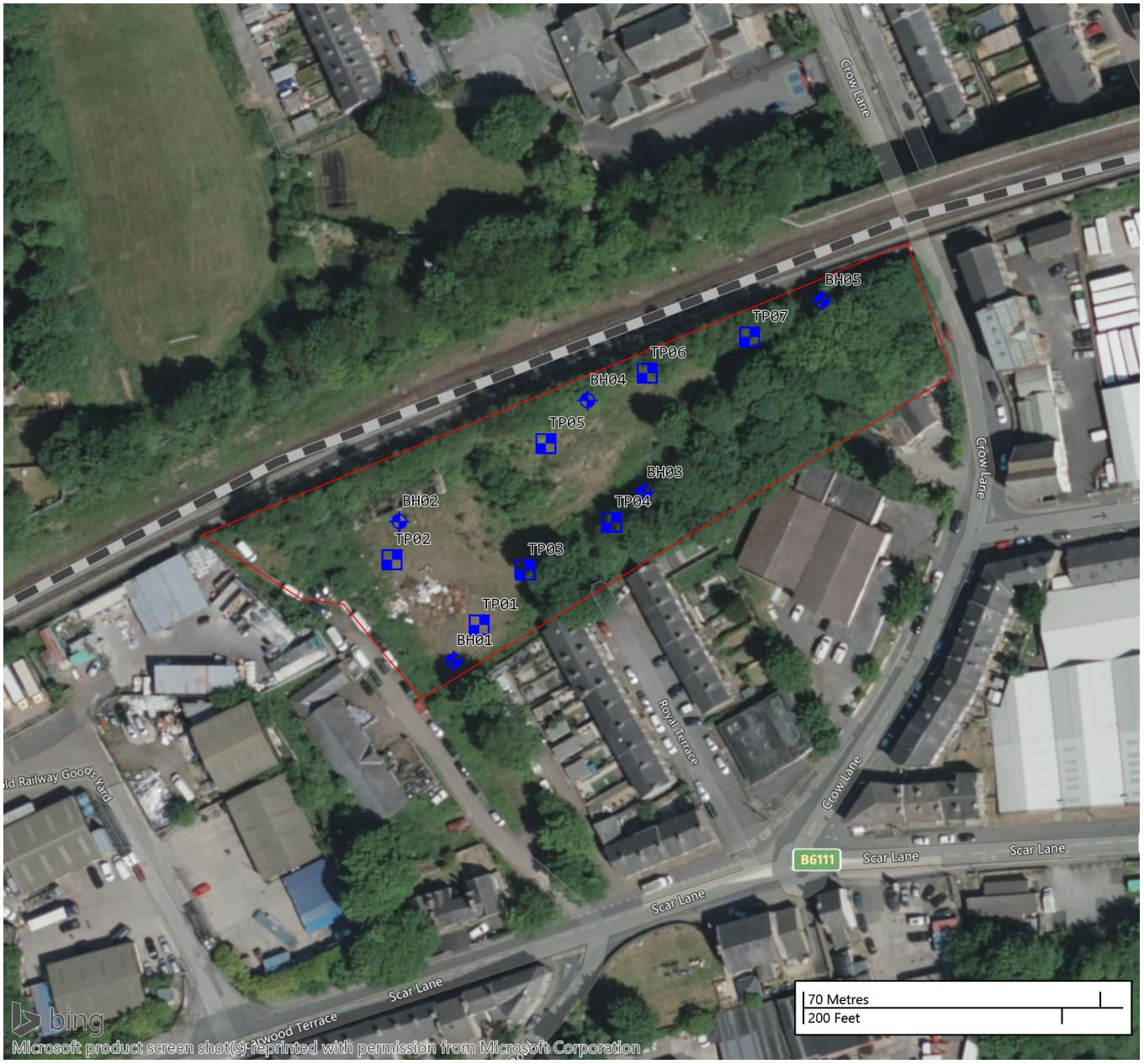
Figure 1

Scale

1:3000 @ A4 [DO NOT SCALE]

Legend Key

Project Bounds - Project Bounds



SOLMEK

12-16 Yarm Road, Stockton on Tees, TS18 3NA
Tel: 01642 607083 Email: info@solmek.com

Figure Title

Exploratory Hole Location Plan

Project Number

S240420

Project Name

Milnsbridge, Huddersfield

Client

Dempsey and Gannon

Date

June 2024

DRG Number

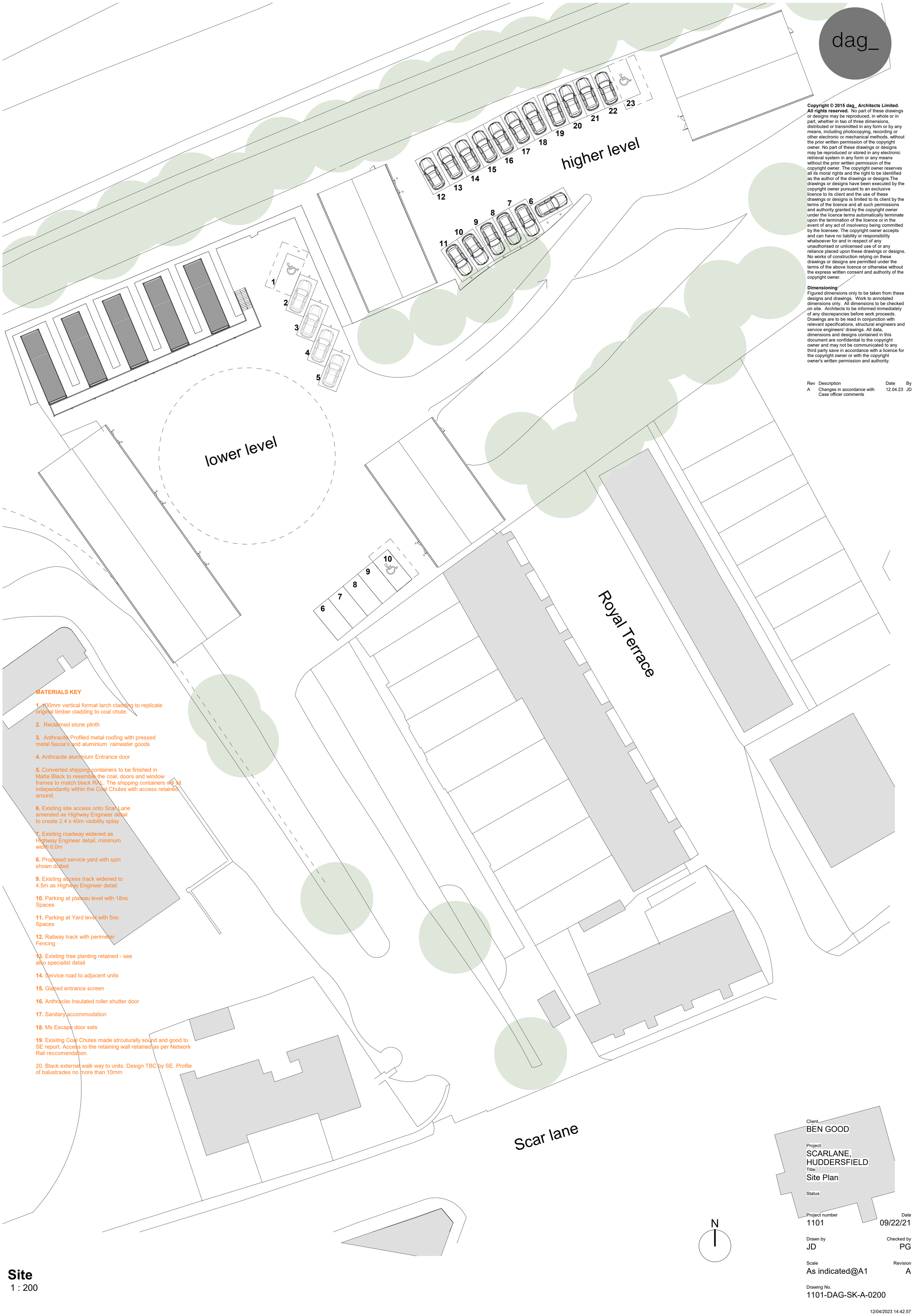
Figure 2

Scale

1:1500 @ A4 [DO NOT SCALE]

Legend Key

- Locations By Type - BH
- Locations By Type - TP
- Project Bounds - Project Bounds



dag_

Dimensioning
Figured dimensions only to be taken from these designs and drawings. Work to annotated dimensions only. All dimensions to be checked on site. Architects to be informed immediately of any discrepancies before work proceeds. Drawings are to be read in conjunction with relevant specifications, structural engineers and service engineers' drawings. All data, dimensions and designs contained in this document are confidential to the copyright owner and may not be communicated to any third party save in accordance with a licence for the copyright owner or with the copyright owner's written permission and authority.

Rev	Description	Date	By
A	Changes in accordance with Case officer comments	12.04.23	JD

MATERIALS KEY

1. 100mm vertical format larch cladding to replicate original timber cladding to coal chute.

2. Reclaimed stone plinth

3. Anthracite Profiled metal roofing with pressed metal fascia's and aluminium rainwater goods

4. Anthracite aluminium Entrance door

5. Converted shipping containers to be finished in Matte Black to resemble the coal, doors and window frames to match black RAL. The shipping containers will sit independantly within the Coal Chutes with access retained around.

6. Existing site access onto Scar Lane amended as Highway Engineer detail to create 2.4 x 40m visibility splay

7. Existing roadway widened as Highway Engineer detail, minimum width 6.0m

8. Proposed service yard with spin shown dotted

9. Existing access track widened to 4.5m as Highway Engineer detail

10. Parking at plateau level with 18no Spaces

11. Parking at Yard level with 5no Spaces

12. Railway track with perimeter Fencing

13. Existing tree planting retained - see also specialist detail

14. Service road to adjacent units

15. Glazed entrance screen

16. Anthracite Insulated roller shutter door

17. Sanitary accommodation

18. Ms Escape door sets

19. Exisitng Coal Chutes made strcuturally sound and good to SE report. Access to the retaining wall retained as per Network Rail reccomendation.

20. Black external walk way to units. Design TBC by SE. Profile of balustrades no more than 10mm

Site
1 : 200

N

Client
BEN GOOD

Project
SCARLANE, HUDDERSFIELD

Title
Site Plan

Status

Project number
1101

Date
09/22/21

Drawn by
JD

Checked by
PG

Scale
As indicated@A1

Revision
A

Drawing No.
1101-DAG-SK-A-0200

12/04/2023 14:42:57

APPENDIX B:
S4UL Threshold Value Tables

INORGANIC CONTAMINATION TESTING THRESHOLDS

Determinand	Units	Commercial Threshold Value
Metals		
Beryllium	mg/kg	12
Cadmium	mg/kg	190
Chromium III	mg/kg	8600
Copper	mg/kg	68000
Lead	mg/kg	2300*
Inorganic Mercury	mg/kg	1100
Nickel	mg/kg	980
Zinc	mg/kg	730000
Semi metals and non metals		
Arsenic	mg/kg	640
Boron	mg/kg	240000
Selenium	mg/kg	12000
Vanadium	mg/kg	9000
Inorganic chemicals		
Cyanide (total)	mg/kg	1580**
W.S. Sulphate	mg/l	2000^
Other		
pH	pH	<5.5^

* *Category 4 Screening Levels, March 2014*
** *CLEA Software Version 1.06 (pH7 and 1%SOM)*
^ *EA Threshold Values*

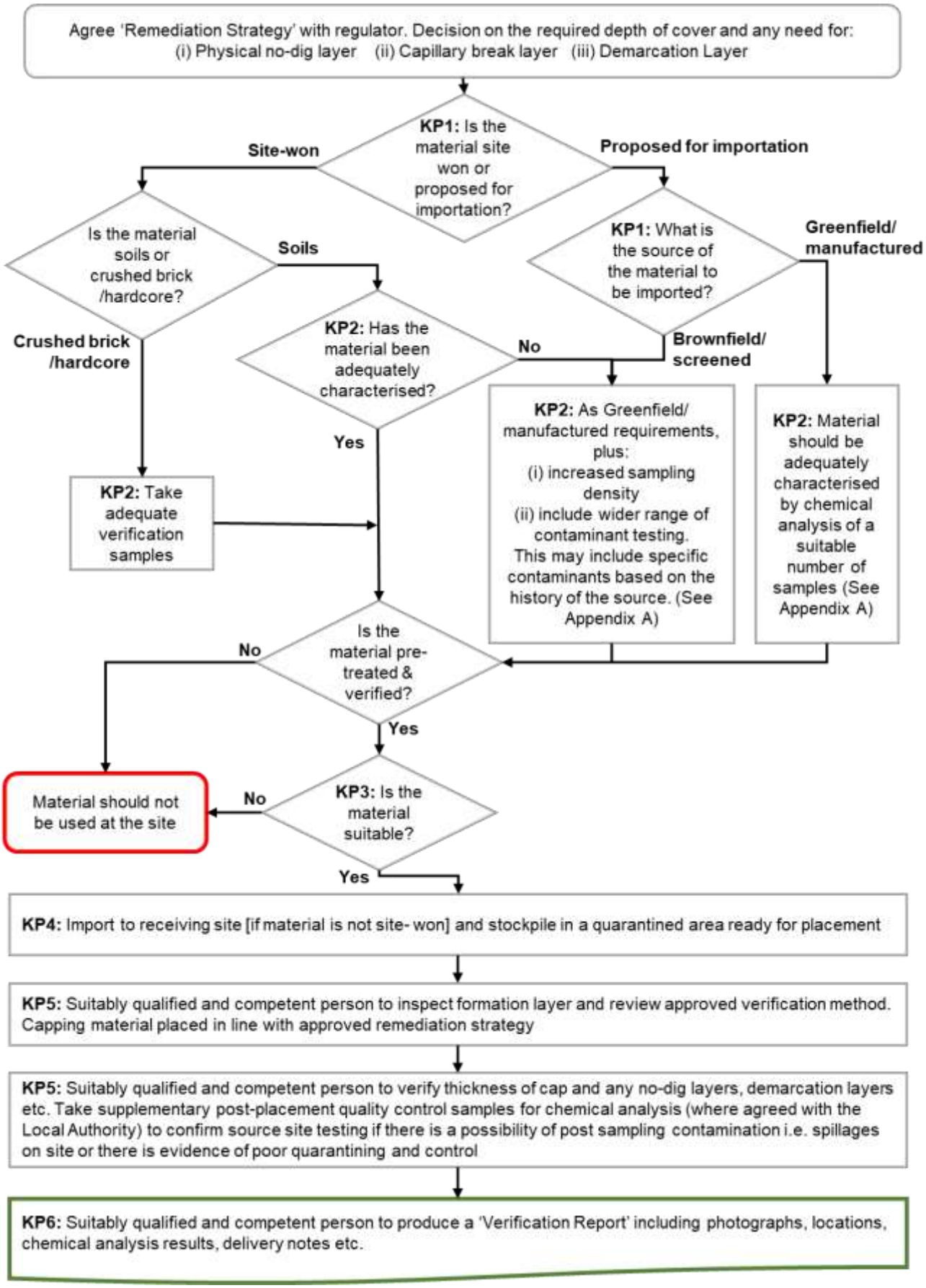
ORGANIC CONTAMINATION TESTING THRESHOLDS

Determinand	Units	Commercial Threshold Value 1% SOM	Commercial Threshold Value 2.5% SOM	Commercial Threshold Value 6% SOM
TPH Aliphatic Fractions				
C5-6	mg/kg	3200	5900	12000
C6-8	mg/kg	77800	17000	40000
C8-10	mg/kg	2000	4800	11000
C10-12	mg/kg	9700	23000	47000
C12-16	mg/kg	59000	82000	90000
C16-35	mg/kg	1600000	1700000	1800000
TPH Aromatic Fractions				
C5-7 (Benzene)	mg/kg	26000	46000	86000
C7-8 (Toluene)	mg/kg	56000	110000	180000
C8-10	mg/kg	3500	8100	17000
C10-12	mg/kg	16000	28000	34000
C12-16	mg/kg	36000	37000	38000
C16-21	mg/kg	28000	28000	28000
C21-35	mg/kg	28000	28000	28000
Speciated PAH				
Naphthalene	mg/kg	190	460	1100
Acenaphthylene	mg/kg	83000	97000	100000
Acenaphthene	mg/kg	84000	97000	100000
Fluorene	mg/kg	63000	68000	71000
Phenanthrene	mg/kg	22000	22000	23000
Anthracene	mg/kg	520000	540000	540000
Fluoranthene	mg/kg	23000	23000	23000
Pyrene	mg/kg	54000	54000	54000
Benz' (a)anth' ene	mg/kg	170	170	180
Chrysene	mg/kg	350	350	350
Benz' (b)fluor' ene	mg/kg	44	44	45
Benz' (k)fluor' ene	mg/kg	1200	1200	1200
Benz' (a)pyrene	mg/kg	35	35	36
Benz (ghi)per' ene	mg/kg	3900	4000	4000
Diben(ah)anth'ene	mg/kg	3.5	3.6	3.6
Id' (123cd)pyrene	mg/kg	500	510	510
Total PAH	mg/kg	1000*	1000*	1000*
Phenol	mg/kg	750	1300	2300

* *EA Threshold Values*

APPENDIX C:
YALPAG Overview Flowchart

Overview Flowchart



APPENDIX D:
Notes on Limitations & Contamination Guidelines

SOLMEK NOTES ON CONTAMINATION GUIDANCE (REF: VERSION 1/2025)

UK BACKGROUND

Environmental Protection Act 1990: Part 2A Revised Statutory Guidance (April 2012)

This revised document explains how the Local Authority should decide if land, based on a legal interpretation, is contaminated. The document replaces the previous guidance given in Annex 3 of DEFRA Circular 01/2006, issued in accordance with section 78YA of the 1990 Environmental Protection Act.

The main objectives of the Part 2A regime are to *"identify and remove unacceptable risks to human health and the environment" and* to *"seek to ensure that contaminated land is made suitable for its current use".*

Part 2A uses a risk based approach to defining contaminated land whereby the "risk" is interpreted as *"the likelihood that harm, or pollution of water, will occur as a result of contaminants in, on or under the land"* and by *"the scale and seriousness of such harm or pollution if it did occur".*

For a relevant risk to exist a contaminant, pathway and receptor linkage must be present before the land can be considered to be contaminated. The document explains that *"for a risk to exist there must be contaminants present in, on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might significantly harm people, the environment, or property; or significantly pollute controlled waters."*

A conceptual model is used to develop and communicate the risks associated with a particular site.

To determine if land is contaminated the local authority use various categories from 1 to 4. Categories 1 and 2 include *"land which is capable of being determined as contaminated land on grounds of significant possibility of significant harm to human health."*

Categories 3 and 4 *"encompass land which is not capable of being determined on such grounds".*

PRELIMINARY CONCEPTUAL MODEL

Preliminary Conceptual Models are undertaken in accordance with CIRIA C552. The Preliminary Conceptual Model assesses the consequence and the likelihood of a risk being realised to provide a risk classification, using the tables detailed below.

CONSEQUENCE OF RISK BEING REALISED (Based on C552 CIRIA, 2001)

Classification	Definition	Example
Severe	Short-term (acute) risk to human health, the environment, an element of the development or other aspect with is likely to result in *significant harm*, damage or both.	High concentrations of cyanide on the surface of an informal recreational area. Major spills of contaminants from site into controlled water. High concentrations of explosive gas in the subsurface environment that have a clear unobstructed pathway into buildings.
Moderate	Chronic damage to human health, a plausible chance that an event will occur, although the timeline is not immediate to be in the short-term.	Appreciable concentration of contamination that over the longer-term will cause significant harm i.e. high lead concentration in topsoil. Shallow mine workings that are potentially unstable but may remain in a satisfactory or stable conditions for a number of years.
Mild	Low level pollution of non-sensitive water, a feasible hazardous scenario although the timeline of such occurring can probably be considered in 10's of years.	The effect of high sulphate concentrations on structural concrete. Pollution of non-classified groundwater.
Minor	Harm, although not necessarily significant to human health, or with respect to other aspects of the development, which are considered implausible in terms of occurrence, or will have little consequential impact.	The presence of contaminants at such low concentrations that protective equipment is required during site works. Any damage to structures is minimal and will not be structural in characteristics.

PROBABILITY OF RISK BEING REALISED (C552 CIRIA, 2001)

Classification	Definition
High Likelihood	There is a viable pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence that the receptor has been harmed or polluted.
Likely	There is a viable pollutant linkage and all elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a viable pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a viable pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

RISK CLASSIFICATION MATRIX (C552 CIRIA, 2001)

Risk = Probability x Consequence		Consequence			
		Severe	Moderate	Mild	Minor
Probability	High likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

HUMAN RECEPTORS

Human exposure to contaminants present in soils can occur via several pathways. Direct exposure pathways include dermal absorption after contact with contaminated ground, inhalation of soil or dust, inhalation of volatised compounds, and inadvertent soil ingestion (or deliberate soil ingestion in the case of some children). Other indirect pathways include human ingestion of plants grown in contaminated soil or contaminated ground or surface water. Contaminants associated with wind blown dust can affect humans on surrounding sites.

VEGETATION

Plants can be affected by soil contamination in a number of ways resulting in growth inhibition, nutrient deficiencies and yellowing of leaves. Contaminants are taken up by plants through the roots and through foliage. Contaminants identified as being highly phytotoxic include boron, cadmium, copper, lead, nickel, and zinc.

To establish if the levels of contaminants present on a site may pose a risk to vegetation the results of the contamination testing are compared to a series of threshold values published in 'Code of Good Agricultural Practice for the Protection of Soil'.

GROUNDWATER AND SURFACE WATER RECEPTORS

The principal pathway by which soil contamination may reach the water environment is through a slow seepage or leaching to groundwater or surface water. The potential for contaminants to migrate along such pathways is dependent on the chemical and physical characteristics of the contaminants and the local hydrogeology. Surface watercourses may also accumulate contamination as contaminated sediments are deposited within the water body.

Where the site investigated overlies major/principal aquifers (and in some cases minor/secondary aquifers depending on certain conditions), groundwater Source Protection Zones and areas in close proximity to groundwater abstractions, contamination test results have been compared with the Water Supply (Water Quality) Regulations 1989 and The Water Supply (Water Quality) Regulations 2000.

Should a surface water receptor, such as a fresh water environment (river, canal, stream, lake etc), or marine environment be considered sensitive in relation to a site, then test results are compared with DEFRA & SEPA Environmental Quality Standards (2004). Many of the Environmental Quality Standards are hardness ($CaCO_3$) depended. Where no hardness values are available, Solmek assume conservative values (of between 0 and 50mg/l).

In the absence of vulnerable ground and surface water environments, Solmek may compare any test results with the Environment Agency Leachate Quality Threshold Values.

DETAILED QUANTITATIVE RISK ASSESSMENT (DQRA)

In line with Environment Agency's guidance document Environment Agency *Land Contamination Risk Management*, which replaced the now-withdrawn *Contaminated Land Report 11 – Model Procedures for the Management of Land Contamination (2004)*, a DQRA for groundwater/human health may be required following a Phase 2 investigation and before the preparation of a Phase 3 Remediation Strategy. For human health DQRA, a site specific assessment criteria is undertaken using CLEA Software Version 1.06. For groundwater DQRA, the Environment Agency Remedial Targets Worksheet Version 3.1 is used.

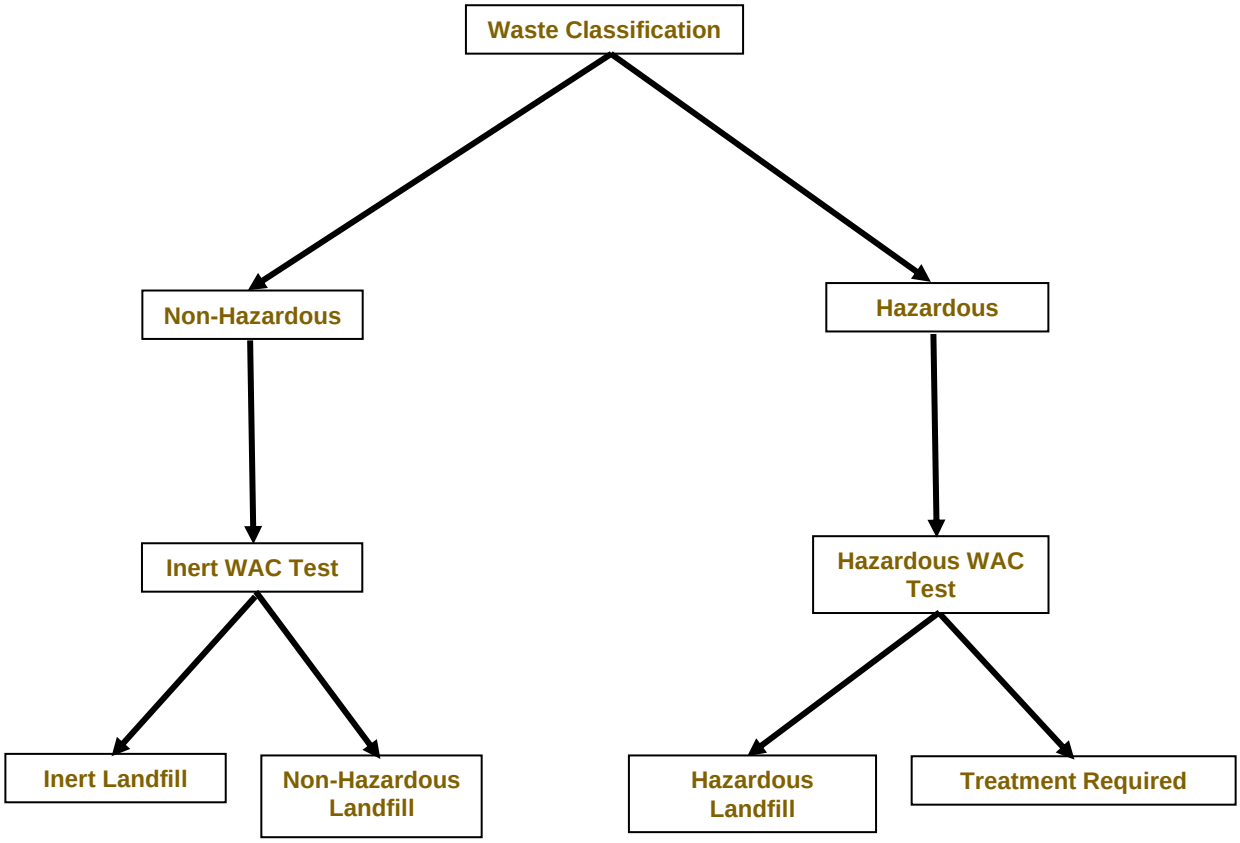
WASTE CLASSIFICATION AND WASTE ACCEPTANCE CRITERIA

During the site strip and construction activities, material may be required to be removed from site. Any such material would require classification, in line with Environment Agency Technical Guidance *Waste Classification: Guidance on the classification and assessment of waste (2015)*. This would classify the material as either Non-Hazardous or Hazardous Waste.

Once the material has been classified, determining the suitable landfill for disposal is governed by landfill directive Waste Acceptance Criteria (WAC) testing, with landfills categorized as Inert Waste, Stable Non-Reactive Hazardous Waste and Hazardous Waste. The WAC testing relates to materials that are to be exported from a site/development to landfill, and do not directly relate to human health specifically. The testing results are generally presented as certificates which can be used by site owners/contractors etc, which should be presented to the accepting waste facility or waste contractor.

If waste classification and/or WAC testing are not undertaken, material taken off site may be subject to WAC testing by the appropriate waste disposal company. The decision on whether or not to accept waste, or whether further testing is required, is at the discretion of the waste disposal company.

The below flow chart provides further information on the waste classification process.



CONSTRUCTION MATERIALS

Materials at risk from possible soil contaminants include inorganic matrices such as cement and concrete and also organic material such as plastics and rubbers. Acid ground conditions and high levels of sulphates can accelerate the corrosion of building materials. Where pH and soluble sulphate analysis has been undertaken, Solmek compare the test results with the guidelines presented within BRE Special Digest 1, 2005 (3rd Edition) 'Concrete in Aggressive Ground'. Plastics and rubbers are generally used for piping and service ducts and are potentially attacked by a range of chemicals, most of which are organic, particularly petroleum based substances. Drinking water supplies can be tainted by substances that can penetrate piping and water companies enforce stringent threshold values.

The levels of potential contaminants should be compared to thresholds supplied in the UK Water Industry Research (UKWIR) publication "Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites" (January 2011). A Brownfield Site is defined in the document as "Land or premises that have not previously been used or developed that may be vacant or derelict". It should be noted that Brownfield sites may not be contaminated. The guidance does not apply to Greenfield Sites however water companies may have their own assessment criteria which should be checked by the developer. The table below outlines the pipe material selection threshold concentrations.

	Pipe Material (Threshold concentrations in mg/kg)					
Parameter group	**PE**	**PVC**	**Barrier pipe (PE-AL-PE)**	**Wrapped Steel**	**Wrapped Ductile Iron**	**Copper**
Extended VOC suite by purge and trap or head space and GC-MS with TIC	0.5	0.125	Pass	Pass	Pass	Pass
+ BTEX + MTBE	0.1	0.03	Pass	Pass	Pass	Pass
SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C5-C10)	2	1.4	Pass	Pass	Pass	Pass
+ Phenols	2	0.4	Pass	Pass	Pass	Pass
+ Cresols and chlorinated phenols	2	0.04	Pass	Pass	Pass	Pass
Mineral oil C11-C20	10	Pass	Pass	Pass	Pass	Pass
Mineral oil C21-C40	500	Pass	Pass	Pass	Pass	Pass
Corrosive (Conductivity, Redox and pH)	Pass	Pass	Pass	Corrosive if pH <7 and conductivity >400µS/cm	Corrosive if pH <5, Eh not neutral and conductivity >400µS/cm	Corrosive if pH <5 or >8 and Eh positive
Specific suite identified as relevant following site investigation						
Ethers	0.5	1	Pass	Pass	Pass	Pass
Nitrobenzene	0.5	0.4	Pass	Pass	Pass	Pass
Ketones	0.5	0.02	Pass	Pass	Pass	Pass
Aldehydes	0.5	0.02	Pass	Pass	Pass	Pass
Amines	Fail	Pass	Pass	Pass	Pass	Pass

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Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.4 of BS 10175:2011 in order to confirm the conceptual assumptions. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, Solmek cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by Solmek in the course of investigation is the property of Solmek, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. Solmek reserve the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork. The presence or otherwise of Japanese Knotweed or other invasive plants can be difficult to identify especially during winter months. If Japanese Knotweed or other invasive species are suspect, it should be confirmed by an ecologist. We have not allowed for acquiring services information, and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning Solmek you understand and accept that you/your agent have a contractual relationship with Solmek & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Solmek are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete, and Solmek has not allowed for this. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming Solmek agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation, and will apply 8% to the base rate for unreasonably late payments. Solmek are exempt from the CIS Scheme. Solmek offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. Solmek are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by Solmek. Solmek give notice that consequential loss as a direct or indirect result of Solmek's activities or omission of the same are excluded.