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Verification Report

10 October 2024

Mark Godfrey
Station House, Station Road, Gedney, Spalding, PE12 0DD

Report by Mr Louis Turner BSc (Hons)
Supervised by Mr Joseph Turner

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1. Introduction

The following document is a Verification Report carried out by Oakshire Environmental, and includes details of the site, previous investigations, remediation, verification, an evaluation of risk and an assessment of further investigations.

1.1 Project Overview

The client's proposed project involves the conversion of offices to a residential dwelling and associated work at Station House, Station Road, Gedney, Spalding, PE12 0DD. Following the implementation of remediation at the site, verification has been recommended. Oakshire Environmental have carried out a Verification Report, as described below.

1.2 Purpose of Investigation

The objectives of the Verification Report were to:

- Identify and assess the nature and extent of residual contamination risk.
- Determine the efficacy of remediation work carried out at the site.
- Assess the requirement for further investigations, remediation or mitigation measures.

1.3 Scope of Work

- In order to identify the nature and extent of contamination, 3 x samples will be taken down to a maximum depth of ~0.6m and analysed for Metals (As,Cd,Cr,Cu,Pb,Hg,Ni,Se,Zn), Chromium (III & VI), PAH (USEPA 16), pH, Organic Matter and Asbestos (Qualitative) in a UKAS accredited laboratory.
- Results of laboratory testing will be assessed with reference to suitable screening values, including LQM/CIEH Suitable 4 Use Levels (S4ULs), CL:AIRE Category 4 Screening Levels (C4SLs) and Generic Assessment Criteria (GAC).
- To determine the efficacy of remediation, desk studies will be carried out to analyse photographic, evidence, certificates and supporting documentation collated during remediation at the site.
- This information will be used to update the Conceptual Site Model, produced as part of previous investigations to categorise the severity of consequence and probability of identified contaminant linkages, and conduct an evaluation of contamination risk to assess the requirement for further investigations, remediation or mitigation measures.
- Supporting appendix to include photographs, maps and plans of the site.

1.4 Limitations

Quantum Intelligent Trading Ltd is previously and hereafter referred to as “Oakshire Environmental” or “the company”. Oakshire Environmental has exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant when undertaking works of this nature. This report is only valid when used in its entirety and any information or advice contained within the report should not be relied upon until considered in the context of the whole report. Oakshire Environmental disclaims any responsibility to the client, as named on the front of this report (“the client”), and others in respect of any matters outside the scope of this work. Any comments made on the basis of information obtained from the client or other third parties are given in good faith on the assumption that the information is accurate. This report has been prepared solely for the benefit of the client and any other party using or placing reliance upon any information contained in this report does so at their own risk. Oakshire Environmental accepts no responsibility or liability for the contents of this report being used for any purpose or project for which it was not commissioned. Oakshire Environmental accepts no liability whatsoever for any loss or damage arising from the interpretation or use of this report and in no event shall the company be liable for any punitive, exemplary or other special damages, or for any indirect, incidental or consequential damages, including with respect to the performance or non-performance of any services, whether arising under breach of contract, tort or any other legal theory, and regardless of whether the company has been advised of, knew of, or should have known of the possibility of such damages. Furthermore, Oakshire Environmental does not accept any liability for the consequences of any legislative changes or the release of subsequent guidance documentation and following delivery of the report has no obligation to advise the client or any other party of such changes or their repercussions.

This report excludes consideration of potential hazards arising from any activities at the site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities. Oakshire Environmental does not warrant or guarantee that the site is free of hazardous or potentially hazardous materials or conditions. It should be noted that this report has been produced for environmental purposes only.

Oakshire Environmental cannot be held responsible for incorrect analysis of samples. The information and conclusions provided in this report are limited to, and representative of, the samples taken and cannot be extended to apply to the whole site, in addition, Oakshire Environmental cannot guarantee the accuracy of analysis for samples not taken at the source by the company or those which deviate due to exceedance of holding time or inappropriate sampling practises. The findings and/or recommendations of this report do not take into account any conditions that may be present but have hitherto not been encountered and as such further investigation and/or a reconsideration of the findings of this report should be undertaken if such conditions are subsequently encountered or an alternative development plan or land use is subsequently proposed.

2. Site

The following section provides a description of the site and location, proposed project and previous investigations, utilising information obtained from the client and publicly available sources.

2.1 Site Description and Location

The site is located on Station Road to the south east of the village of Gedney and is approximately 1,600m2. The site is comprised of a dwelling curtailed by patio, with a gravel driveway to the east and south and soft landscaping to the north west and south west. There is also a timber garage at the south east and two timber structures at the north.

The site is bordered by two semi-detached dwellings to the north, a depot to the east, agricultural buildings to the north east and south and Station Road to the west. The surrounding area is predominantly agricultural, with some commercial premises. There are no woodlands, ancient monuments or archaeological sites within 500m of the site.

National Grid Reference: TF 41195 23809

2.2 Proposed Development

The proposed development involved the conversion of the former Gedney Train Station building from offices into a dwelling, with associated hard and soft landscaping.

2.3 Previous Investigations

An Intrusive Site Investigation, carried out by Oakshire Environmental in May 2022, considered there to be a moderate risk to residential end users as a result of elevated concentrations of PAHs at a depth of 0.3m in soft landscaping at the north and north east of the site. There was considered to be a low risk to groundwater due to the low water level in the area and the low vulnerability of the unproductive superficial and bedrock aquifers.

Following the Intrusive Site Investigation, a Remediation Options Appraisal was carried out to include analysis of feasible remediation options to address contamination risk at the site. Based on the detailed evaluation of feasible remediation options, the most appropriate remediation option was considered to be via source management and pathway interruption by way of excavation and off-site disposal of contaminated soil and containment through the placement of a clean cover layer. The details regarding the remediation were outlined in a Remediation Strategy.

3. Remediation

3.1 Remediation Strategy

Soil from the north and north east of the site should be excavated and disposed of off-site. Sampled soil from the site is classified as Non-Hazardous and should be disposed of accordingly by a licensed waste carrier. Excavations should be carried out by a suitability qualified groundworks contractor and a photographic record of the excavation works should be kept, including the base and faces of each excavation.

Excavation should be carried out to a minimum depth of 0.3m, however, it is likely to be practical to excavate to a depth equal to the thickness of the clean cover layer, in order to re-instate appropriate site levels.

A cover layer of clean imported material should then be placed in excavated areas, to a minimum thickness of 0.6m. Imported soil to be utilised as soft landscaping cover material must be shown to be uncontaminated and compliant with British Standard 3882:2015. Photographic evidence of the depth of cover is required to verify that the required thickness of cover has been implemented.

If unforeseen visible or olfactory evidence of contamination is identified during excavations at the site, work should cease in order to allow further investigation to be carried out.

3.2 Remediation Implementation

Information and supporting evidence supplied by the client shows that soil in the proposed garden areas at the north and north east of the site were excavated to a depth of 450mm and removed from site, following this, soil excavated from nearby agricultural land was imported to the site and installed to a depth of 600mm to provide the clean cover system.

4. Verification

The following section includes a review of documents and supporting evidence collected during remediation implementation, in addition to, an evaluation of sampling methodology.

4.1 Document Review & Evidence

Remediation work was not supervised by Oakshire Environmental, however, a waste transfer note, information and photographic evidence has been supplied by the client.

17 lorry loads of excavated soil were collected and disposed off-site by P&R Plant Hire Lincs Ltd between 2nd – 3rd July 2024 (Licence No. CBDU183429). Waste Transfer Note shown in the Appendix.

Photos showing the excavation of 450mm of soil in the proposed garden areas at the north and north east of the site and the installation of 600mm of clean cover soil in these areas are shown in the Appendix.

Soil imported for use as clean cover was excavated from nearby agricultural land at Cowpers Gate, Station Road, Long Sutton, Spalding, PE12 9AY and was not supplied with British Standard 3882:2015 compliance documents, however, a visual inspection of the soil was carried out by the developer prior to importation and it was considered of a suitable quality to provide a growing medium.

Sampling was carried out on imported soil in-situ, to ensure it is uncontaminated and suitable for residential use. Sampling work and laboratory testing carried out is detailed below.

4.2 Sampling Work

Trial pits were dug at the locations shown on the plans in the appendix to a maximum depth of 0.6m. Soil conditions were noted through the process in order to produce borehole logs.

Undisturbed samples were collected using a window sampler and soil was then collected from the sampler and placed into sample containers. Samples collected for VOC analysis were filled as much as possible to minimise air spaces, as volatile compounds can be lost into these spaces. Sampling equipment was then wiped clean to minimise cross contamination.

4.2 Health & Safety

When collecting soil samples on a potentially contaminated site it must be assumed that the soil is contaminated in order to protect the health of the assessor. Protective rubber gloves were worn at all times as well as substantial footwear. Equipment was washed thoroughly before and after use and kept in a container when transported to avoid the spread of any possible contamination. Sample containers were packed with biodegradable fill for protection and placed in a sealed plastic container for transportation to the laboratory.

5. Evaluation of Results

5.1 Screening Values

Results of laboratory testing of soil samples were analysed by comparing them to industry standard screening levels used for risk assessments. Screening levels used include the DEFRA Category 4 Screening Levels (C4SLs) based on Low Level of Toxicological Risk and the LQM/CIEH S4ULs for Human Health Risk Assessment. These levels cover multiple Soil Organic Matter (SOM) contents (1%, 2% and 6%) and assume a pH of 8. The ‘residential with plant uptake’ screening values were used to assess results. This land use considers direct soil and indoor dust ingestion and inhalation, skin contact with soils and dust, inhalation of vapours and ingestion of homegrown produce as exposure pathways. These levels take a conservative approach to assessing potential risk and concentrations below these screening values can be considered to represent 'uncontaminated conditions' which pose 'LOW' risk to human health based on the proposed land use.

It is important to note that exceedance of a relevant screening value does not necessarily constitute evidence of either a ‘significant possibility of significant harm’ or the need for remediation under the UK’s planning regimes. Rather such exceedance should usually trigger a further detailed quantitative risk assessment, where site-specific parameters are used to derive site-specific assessment criteria. Common sense tells us, and a robust risk evaluation reveals, that a gross exceedance is a good indicator that an unacceptable risk is present.

5.2 Summary of Results

- Heavy metal concentrations were below residential with plant uptake land use screening values in all samples
- pH was alkaline in samples V01 and V02 and was acidic in sample V03
- Total Organic Carbon values were low in all samples, suggesting the soil has a low organic matter content
- Polycyclic Aromatic Hydrocarbons (PAHs) concentrations were low in all samples
- No Asbestos was detected in sampled soil

5.3 Risk Assessment Methodology

The potential level of risk posed by a particular source is determined by assessing the potential severity of the impact of the contaminant linkage on the receptor, if it is assumed to be present, and the probability of the contaminant linkage being present.

Severities are categorised from Minor to Severe and probabilities are categorised from Unlikely to High Likelihood to give a potential level of risk output.

Table 1: Risk Matrix

Probability	**Severity of Consequence**			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low / Moderate Risk
Likely	High Risk	Moderate Risk	Low / Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low / Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low / Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

Very High Risk

There is a high probability that severe harm could arise to a designated receptor from an identified source; or there is evidence that severe harm to a designated receptor is currently happening.

High Risk

Harm is likely to arise to a designated receptor from an identified source.

Moderate Risk

It is possible that harm could arise to a designated receptor from an identified source. It is relatively unlikely that any such harm would be severe or if any harm were to occur it is more likely that the harm would be relatively mild.

Low Risk

It is possible that harm could arise to a designated receptor from an identified source, however, it is likely that this harm, if realised, would normally be mild.

Very Low Risk

There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

5.4 Conceptual Site Model

The information in this section has been compiled to produce an initial conceptual site model outlining the potential sources, pathways and receptors to consider at the site. The level of risk was categorised by considering the severity and probability, as outlined in the previous section.

Table 2: Conceptual site model

Sources	Pathways	Receptors	Severity	Probability	Potential Level of Risk	
PAHs in soft landscaping at the north and north east of the site	Ingestion/inhalation of contaminated soil dust Dermal contact with contaminated soil Ingestion of homegrown produce Permeation into drinking water pipes	Residential end users	**Medium**	**Unlikely**	**Low**	Contaminant concentrations in samples taken, as part of remediation verification work, from proposed garden areas at the north and north east of the site were low and no exceedances of residential with plant uptake land use screening values were identified, therefore, the risk to residential end users is now considered to be low.
	Leaching through soil	Groundwater	**Mild**	**Unlikely**	**Very Low**	Groundwater in the area is generally of very low vulnerability due to the unproductive superficial and bedrock aquifers and contaminants identified are of low volatility and mobility suggesting that leaching of contaminants is not likely, in addition, remediation work carried out at the site has partially removed the contamination source, therefore, the risk to groundwater is now considered to be very low.

6. Conclusions

6.1 Risk Evaluation

The conceptual site model has identified the following contaminant linkages present at the site and the following conclusions have been drawn:

- There is a **low risk** to residential end users from the ingestion/inhalation of contaminated soil dust, dermal contact with contaminated soil, ingestion of homegrown produce and permeation into drinking water pipes from PAH contamination in soft landscaping at the north and north east of the site.

- There is a **very low risk** to groundwater from the leaching of contaminants through soil from PAH contamination in soft landscaping at the north and north east of the site.

6.2 Further Investigation

Based on laboratory testing of soil samples from the site, an assessment of the remediation work carried out and the updated Conceptual Site Model, the previously identified risk to on-site receptors from soil contamination in the proposed garden areas at the north and north east of the site is considered to have been sufficiently mitigated.

7. References

Environment Agency *Land contamination: risk management*. [online] Available at: <gov.uk/guidance/land-contamination-how-to-manage-the-risks>.

DEFRA, 2014. *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination*. London: Department for the Environmental and Rural Affairs

Nathanail, C.P.; McCaffrey,C.; Gillett, A.G.; Ogden, R.C. & Nathanail, J.F., 2015. *The LQM/CIEH S4ULs for Human Health Risk Assessment*. Nottingham: Land Quality Press

USEPA, 2022. *Regional Screening Levels (RSLs).* [online] Available at: <epa.gov/risk/regional-screening-levels-rsls>.

Oakshire Environmental, May 2022. *Intrusive Site Investigation.*

Oakshire Environmental, June 2022. *Remediation Options Appraisal.*

Oakshire Environmental Available at: <oakshireenvironmental.co.uk>.



Appendix - Site Maps & Plans	
Description	
Site location plan	
Sources	
Contains OS data © Crown copyright and database rights	
Key	
	Site boundary
▲	North



Appendix - Site Maps & Plans	
Description	
Proposed site plan	
Sources	
Julian Warrick	
Key	
	Site boundary
▲	North



Appendix - Site Maps & Plans	
Description	
Proposed site plan, showing extent of soft landscaping and clean cover	
Sources	
Julian Warrick	
Key	
	Site boundary
	Approximate extent of clean cover
	Outbuildings
	Paved footpath
▲	North



Appendix - Site Maps & Plans	
Description	
Proposed site plan showing sample locations	
Sources	
Julian Warrick	
Key	
	Site boundary
	Sample location
▲	North



Appendix - Site Photos
Description
Photo showing excavation of soil and made ground in the proposed garden area at the north west of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing excavation of soil and made ground in the proposed garden area at the north west of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing excavation of soil and made ground in the proposed garden area at the north east of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing excavation of soil and made ground in the proposed garden area at the north east of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing clean cover in-situ in the location of sample V01
Sources
Oakshire Environmental



Appendix - Site Photos
Description
Photo showing clean cover in-situ in the location of sample V02
Sources
Oakshire Environmental



Appendix - Site Photos
Description
Photo showing clean cover in-situ in the location of sample V03
Sources
Oakshire Environmental



Appendix - Site Photos
Description
Photo showing depth of clean cover at the north west of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing depth of clean cover at the north west of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing depth of clean cover at the north east of the site
Sources
Mark Godfrey



Appendix - Site Photos
Description
Photo showing depth of clean cover at the north east of the site
Sources
Mark Godfrey

Site	Station House, Station Road, Gedney, Spalding, PE12 0DD	Method	Hand dug	**Appendix - Ground Conditions**

Samples		Description of Strata	Thickness (m)	Depth (m)	Symbol
Depth (m)	ID				
0.20	V01				
		Medium brown sandy CLAY with gravel	0.60	0.60	

Remarks and comments
No groundwater identified

Site	Station House, Station Road, Gedney, Spalding, PE12 0DD	Method	Hand dug	**Appendix - Ground Conditions**

Samples		Description of Strata	Thickness (m)	Depth (m)	Symbol
Depth (m)	ID				
0.20	V02				
		Medium brown sandy CLAY with gravel	0.60	0.60	

Remarks and comments
No groundwater identified

Site	Station House, Station Road, Gedney, Spalding, PE12 0DD	Method	Hand dug	**Appendix - Ground Conditions**

Samples		Description of Strata	Thickness (m)	Depth (m)	Symbol
Depth (m)	ID				
0.20	V03				
		Medium brown sandy CLAY with gravel	0.60	0.60	

Remarks and comments
No groundwater identified

P&R PLANT HIRE LINCS LTD

Groundworks
Civil Engineering
Plant Hire

THE OLD NEW INN HALLGATE FLEET SPALDING LINCS PE12 8NG
Office Tel/Fax 01406 422 669

Ticket No: 21897

Haulier	P & R Plant Hire Lincs Ltd		
Driver	H. Watson	Vehicle Reg	
Customer	Mark Godfrey		
~~Delivery~~ Address	Station House, Station Road, Gedney, Spalding, Lincs PE12 0DD		
Date	2,3-7-24	Place of loading	Same as above
Time on Site		Material Description	Gross
Time Off Site		Soil 17 - Loads away off SITE	Tare
Chargeable Waiting			Nett
Waste Carrier Registration No: CBDU183429		Order No: M. GODFREY	
Signed and Printed for Customer			
Signed for P&R Plant Hire Ltd			

Sold subject to our conditions of sale. Copy available on request.
Weights and measure Act, 1985 Conveyance Note. Waste Transfer Note.
Disclaimer: Vehicles directed off the public highway, done so at customers own liability

From: Mark Godfrey mark@gcmhire.com
Subject: House Garden
Date: 27 Sep 2024 at 14:04:35
To: Joe Turner joe@oakshireenvironmental.co.uk

Afternoon Joe

Hope you are well ,
The Adress from which the soil came from is
Cowpers Gate , Station Road , Long Sutton , Spalding , Lincs . PE12 9AY
I Have sent the waste ticket from the job as well so hopefully that's all you need from me !
Have a good weekend and speak soon .

Regards

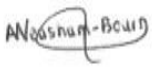
Mark

ANALYTICAL TEST REPORT

Report Number	24-01772, issue number 1
Contract name:	Station Road Spaldin
Client reference:	Station Road Spalding
Clients name:	Oakshire Environmental
Clients address:	Oakshire Environmental 6 Vine Close Bottesford Nottingham NG13 0FW
Samples received:	12/09/2024
Analysis started:	12/09/2024
Analysis completed:	20/09/2024
Report issued:	20/09/2024

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
U/S	Sample not suitable for testing
NAD	No Asbestos Detected



Approved by: Abbie Neasham-Bourn
Senior Reporting Administrator

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB

Telephone: (01207) 528578, Email supportsquad@chemtech-env.co.uk

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
13220	V01	-	Brown Sandy Loamy Clay and Vegetation.	-	-	10.1
13221	V02	-	Brown Sandy Loamy Clay and Vegetation.	-	-	10.1
13222	V03	-	Brown Sandy Loamy Clay and Vegetation.	-	-	10.9

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

a	Sampling date not provided
b	Sampling time not provided (waters only)
c	Sample not received in appropriate containers
d	Storage Temperature
e	Headspace present in sample container
f	Sample exceeded sampling to reciept
g	Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
13220	V01	-	N	
13221	V02	-	N	
13222	V03	-	N	

SOILS

Lab Number					13220	13221	13222
Client Reference					Soil	Soil	Soil
Sample ID					V01	V02	V03
Sampling Date					10/09/2024	10/09/2024	10/09/2024
Test	**Method**	**Accred**	**LoD**	**Units**			
Asbestos							
Asbestos Identification	SUBCON	SU	0	-	NAD	NAD	NAD
Metals							
Arsenic	CE264	U	1.8	mg/kg	8.3	9.0	8.4
Cadmium	CE264	M	1.6	mg/kg	< 1.6	< 1.6	< 1.6
Chromium	CE264	U	2	mg/kg	44.8	40.1	43.0
Copper	CE264	M	1.6	mg/kg	18.5	11.7	9.6
Lead	CE264	U	2.3	mg/kg	30.7	21.0	19.0
Mercury	CE264	U	0.7	mg/kg	0.8	< 0.7	< 0.7
Nickel	CE264	M	2.1	mg/kg	14.8	14.5	15.9
Selenium	CE264	U	3	mg/kg	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	4	mg/kg	54.7	49.3	48.8
Colourimetric							
Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040
Chromium III	CE208	N	2	mg/kg	44.8	40.1	43.0
Combustion							
Moisture Content	CE001	N	0.1	%	10.1	10.1	10.9
Total Organic Carbon	CE197	N	0.1	%	1.67	1.65	1.70
Polyaromatic hydrocarbons							
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.044	0.042	0.040
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	0.082	0.075	0.075
Pyrene	CE087	M	0.016	mg/kg	0.069	0.065	0.066
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.070	0.063	0.062
Chrysene	CE087	M	0.028	mg/kg	0.042	0.038	0.041
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.060	0.056	0.050
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	< 0.025	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	< 0.019	0.040	0.039
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.044	0.046	0.037
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	< 0.019	0.039	< 0.019
Total PAH(16)	CE087	N	0.28	mg/kg	0.412	0.463	0.409
Wet Chem							
pH	CE004	M	0.1	pH units	7.5	7.5	6.5

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
SUBCON	Asbestos Solid	HSG248	Air Dried Sample
CE004	pH of Solids	Potentiometric	As submitted sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE263	ChromiumVI by Discrete Analyser in Solid	Gallery	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE208	Chromium Hexavalent in Soil	Colorimetry	Air dried sample
CE197	Primacs in Solids	Primacs	Air dried sample

REPORT INFORMATION

Report No.:24-01772, issue number 1

Key	
U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

This report shall not be reproduced except in full, without prior written approval.

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Sampling was undertaken by Chemtech Environmental Limited and is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying

For soils and solids, analytical results are inclusive of stones, where applicable.

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt
All water samples will be retained for a period of 2 weeks from the point of Reporting
Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

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
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
2D	GC-GC - Double coil gas chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry