

30th September 2021

Our ref: GE18679/AP03/210930



Mr Thomas Richards
Thakeham Client
Thakeham House
Summers Place
Stane Street
Billingshurst
West Sussex
RG14 9GN

Dear Thomas,

RE: Lidsey Road, Woodgate, West Sussex – Additional Site Investigation

Further to your instruction, we write to present the results of the further intrusive investigation carried out on this site on the 5th May and 3th June 2020. The site location is presented in Figure 1. The locations of the hand pits are presented in Figure 2.

Geo-Environmental had previously undertaken a standalone desk study for Lidsey Road, Woodgate in August 2019 referenced GE18390-DSR-AUG19 and a subsequent ground investigation the report for which was issued in October 2019 referenced GE18390-GAR-OCT19. The ground investigation found elevated concentrations of Benzo(a)pyrene (TP1 0.10m 120mg/kg, TP2 0.10m 64mg/kg), Barium (TP2 0.10m 290mg/kg, WS7 0.20m 130mg/kg) and Beryllium (TP2 0.10m 2.40mg/kg). The Atkins ATRISK values for a residential end use with plant uptake for Benzo(a)pyrene are 4.95mg/kg, Barium 110mg/kg and 1.71mg/kg for Beryllium. The locations of TP1 and TP2 were within the grounds of the nursery, but outside of the glasshouse. The location of WS7 was within the grounds of the residential property.

Based on these initial findings, a cover system was recommended within these areas. However, based on the limited sampling within these locations, it was recommended that further investigation be undertaken in and around the garden nursery and residential property. The glasshouse has recently been cleared and the latest phase of investigation targeted three areas as follows. Investigation around the location WS7 within the grounds of the residential property, investigation around the locations of TP1 and TP2 within the grounds of the former nursery and further sampling within the grounds of both the residential property and the footprint of the former glasshouse within the nursery.

Previous investigations have indicated the geology of the site to comprise Made Ground overlying the River Terrace Deposits over the London Clay.

Scope of Works

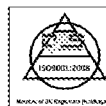
The following scope of works were undertaken in agreement with the client.

- Attendance of a specialist surveyor to undertake a buried utilities clearance survey of the proposed exploratory hole locations using radio-detection and ground penetrating radar techniques.
- Attendance of a Geo-Environmental Engineer to set out and supervise the intrusive investigation, undertake sampling, in-situ testing and logging of recovered soils from exploratory holes.

Geo-Environmental Services Ltd
Unit 7 Danworth Farm, Cuckfield Road, Hove, Brighton, West Sussex BN6 9GL

[Redacted] Site Investigations

Geo-Environmental Services Ltd incorporated in England number 3214980 VAT number 679544479



- Construction of 16No. hand pits using hand digging tools to obtain samples.
- Geochemical laboratory testing for a suite of commonly occurring brownfield contaminants.
- Provision of a letter report detailing the ground and groundwater conditions encountered; the results of in-situ and laboratory testing; and a contamination assessment along with recommendations for further action where necessary.

Samples were placed into amber jars and cool boxes on site for transit to the office, where they were stored under chilled conditions (<4°C) prior to final transportation in cool boxes to the laboratory by their in-house courier. Samples were stored in temperature controlled conditions from sampling until receipt at the laboratory from which time sample preparation and storage was determined by testing requirements and in line with laboratory's protocols.

Site Description

The development site comprised a grassed field, the site was roughly rectangular in shape and was generally flat and level. On the eastern side of the site was a single residential property which for the purposes of the investigation was included within the site boundary. The property comprised a large two storey detached house with garage and indoor swimming pool with gardens on the eastern and western sides. The former greenhouse/nursery had recently been demolished and the site cleared. This portion of the site was generally flat and level at the time of the site investigation. An area of soft landscaping running parallel to Lidsey Road had been enclosed with Heras fencing and was generally overgrown with grass. The ground which was previously beneath the nursery buildings and hardstanding appeared to be mixed Made Ground with some scattered pieces of glass and tarmacadam noted. A stockpile of concrete rubble was observed on the north-east of this area.

The site was bounded by mature trees and hedges, with a ditch along Lidsey Road, which formed the eastern boundary. A large oak tree was noted centrally within the western portion of the site.

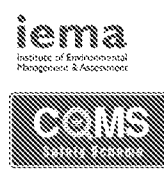
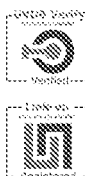
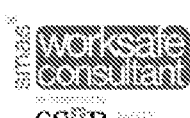
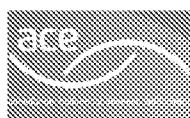
The surrounding area comprised a small field and a public house to the north, residential properties to the east and south and a large commercial nursery to the west.

Rationale

Table 1.1 below presents the rationale for the positioning of the exploratory holes.

Target/Source	Investigation	Exploratory Hole(s)
TP1 (elevated concentrations of contaminants in soils)	Hand pits excavated to target the location of TP1	TP01a, TP01b, TP01c, TP01d
TP2 (elevated concentrations of contaminants in soils)	Hand pits excavated to target the location of TP2	TP02a, TP02b, TP02c, TP02d
WS7	Hand pits excavated to target the location of WS7	WS07a, WS07b, WS07c, WS07d
Rear garden of residential property	Hand pit excavated within rear garden	HP01
Location of former glasshouse	Hand pits excavated within footprint of former glasshouse	HP02, HP03, HP04

Table 1.1 Investigation Rationale



Encountered Conditions

The hand pits around locations TP1 and TP2 (referenced TP101a-TP101d, TP102a-TP102d) recorded Made Ground overlying River Terrace Deposits, with Topsoil encountered in one location.

Topsoil was encountered within TP101c to a depth of 0.80m bgl and comprised brown sandy gravelly silt with frequent rootlets and roots (1-3mm).

Made Ground was encountered within all the other locations to depths of between 0.20m and 0.25m bgl and generally comprised brown gravelly sandy silt with frequent rootlets and occasional roots 1-5mm with tarmacadam, pink sandy gravel concrete, compacted tarmacadam, concrete and stone gravel, brick cobbles. Gravels comprised fine to coarse, sub-angular to sub-rounded flint.

Underlying the Topsoil and Made Ground, the River Terrace Deposits were encountered within all locations to depths of between 0.27m and 0.45m bgl and generally comprised brown and yellow brown mottled sandy silt, clayey silt and clayey sandy silt with occasional fine to medium sub-angular to sub-rounded flint gravel and rootlets.

The hand pits around WS7 (referenced WS07a-WS07d) encountered Made Ground overlying the River Terrace Deposits.

Made Ground was encountered within all locations to depths of between 0.18m and 0.30m bgl and generally comprised brown and light brown sandy silt with frequent rootlets and roots, rare concrete and brick, and occasional carbonaceous inclusions and rare tarmacadam.

Underlying the Made Ground, the River Terrace Deposits were encountered to depths of between 0.33m and 0.43m bgl and generally comprised light brown clayey sandy silt with frequent rootlets and occasional roots (1-5mm) and rare fine to medium sub-angular to sub-rounded flint gravel.

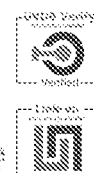
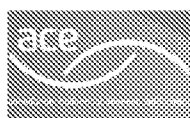
HP101 was undertaken within the rear garden of the residential property, the ground conditions encountered comprised Made Ground consisting of light grey brown fine sandy silt. The pit was taken down to a depth of 0.30m bgl.

Three hand pits were undertaken within the former location of the glasshouse (referenced HP102-HP104) with the ground conditions comprising Made Ground overlying the River Terrace Deposits.

Made Ground was encountered within HP104 only to a depth of 0.25m bgl and generally comprised dark grey brown slightly fine sandy silty clay with frequent coarse brick and flint gravel, fibrous wood fragments, plastic and glass.

The River Terrace Deposits were encountered within all locations to depths of 0.50m bgl and generally comprised firm to stiff orange brown slightly fine sandy silty clay with rare sub-rounded flint gravel and occasional roots (10mm).

In addition within this area, a wooden electrical box was noted with a concrete base. The base appeared to be shuttered with potentially asbestos containing material, a sample was taken for analysis.



Environmental Considerations

The presence of a possible contaminant does not necessarily imply that a site or area is contaminated or that there is any unacceptable risk to human health. A Preliminary Quantitative Risk Assessment has been undertaken in accordance with CLR11, in order to evaluate any unacceptable risks posed to human health with respect to the proposed redevelopment. It should be noted that this assessment is protective of the chronic long-term effects of contaminants, which is also likely to be protective of any possible immediate acute effects.

Based on the findings of the desk study and a visual assessment of the soils encountered, in conjunction with the proposed end use, five soil samples from HP101, WS07a-d were submitted for chemical analysis for a broad suite of potential brownfield contaminants. Eleven soil samples HP102-HP104, TP01a-d and TP02a-d were also submitted for the same broad suite.

In addition, a sample of potentially asbestos containing material was submitted for asbestos analysis.

The results have been compared against Atkins ATRISK guideline values and C4SL screening values for residential end use with plant uptake.

Benzo(a)pyrene has been used in the assessment as a surrogate marker for PAH contamination.

All of the results indicated concentrations less than the Atkins ATRISK/C4SL screening values with the exception of Benzo(a)pyrene within locations TP01a-d and TP02a-d at depths of between 0.15m and 0.20m bgl ranging between 13.4mg/kg to 197mg/kg compared against the ATRISK value of 4.95mg/kg. In addition, an elevated concentration of Beryllium was recorded within TP02b at a depth of 0.15m bgl with a concentration of 2mg/kg compared against the ATRISK concentration of 1.71mg/kg. The Made Ground within these locations was noted to include tarmacadam. In addition, asbestos was confirmed within the sample taken from the shuttering.

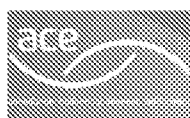
Based on the findings, firstly once the electrical box is removed, the concrete base with the asbestos shuttering should be carefully removed by an appropriately qualified contractor along with soils immediately surrounding the location. The concrete with the asbestos attached should be classified as hazardous waste and must be disposed of under a consignment note to a suitably licenced landfill.

Additionally, plastics, brick and concrete were observed within the soil mass during the investigation. Physical contaminants (plastics, brick, concrete, nails etc.) should not be present within the upper 600mm of garden soils and the upper 450mm of soils in areas of private gardens. As such, where Subsoil is proposed to be reused in these locations physical contaminants should be removed.

With regard to the results of the sampling and analyses, remedial measures are considered necessary within any proposed areas of private gardens to protect end users from soil contamination. The most economically viable option of remediation would be the implementation of a zonal excavation within any areas of proposed private gardens and soft landscaping or planting within the location of the nursery and any plot where WS7 was located (estimated plots 1-9 and plots 73 and 74).

Cover System/Zonal Excavation

It is recommended that within proposed private garden areas for Plots 1-9 and Plots 73 and 74 and soft landscaping adjacent to the plots, the Made Ground should be zonally excavated down to the natural soils. Based on the findings of the investigations the likely average zonal excavation depth is c.300mm. The underlying natural soils should be sampled and submitted for laboratory analysis to confirm their chemical suitability in terms of risk to human health prior to the placement of chemically and physically suitable subsoil and topsoil. Should any deeper



areas of Made Ground be encountered these should be chased out and if they exceed 600mm in depth we would recommend terminating the excavation at 750mm, and installing a 150mm 'deter to dig' layer topped with a geotextile and chemically and physically suitable subsoil and topsoil is installed within the area of proposed private gardens (rear gardens) within the area of the former nursery (plots 1-9) and location of WS7 (plot 73 and 74). For private front gardens the cover system should consist of 600mm of clean imported Topsoil and subsoil overlying a geotextile. For soft landscaped areas/public open spaces, the depth of should be 300m of Topsoil and subsoil, with a geotextile membrane. Based on the laboratory results from the first phase of investigation, Topsoil and subsoil from other parts of the site, namely the field may be re-used as part of any cover system. However, some of the Topsoil's physical properties will require improvement to fully comply with the requirements of Multipurpose Topsoil as defined in BS3882:2015. Furthermore, with careful management and segregation it may be possible to utilise site won natural soils from foundation and drainage excavations for use as subsoil.

Compliance for any imported subsoil and Topsoil suitability should be based on the relevant British Standards (BS3882:2015 and BS8601-2013) augmented with testing to demonstrate the absence of contamination through testing of a generic brownfield analytical suite. Testing frequency will depend on the source and provenance of the subsoil and Topsoil.

This would require careful material segregation at the time of excavation to avoid mixing with Made Ground.

It may be necessary to deepen the cover system within the pits excavated for any proposed deep rooting plant species or trees.

All remedial works should be undertaken in accordance with a regulatory approved Remedial Strategy and Verification Plan with independent validation on completion.

Closure

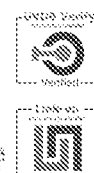
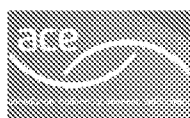
We trust we have interpreted your instructions correctly and provided sufficient information for your current requirements. Should you have any queries please do not hesitate to contact us.

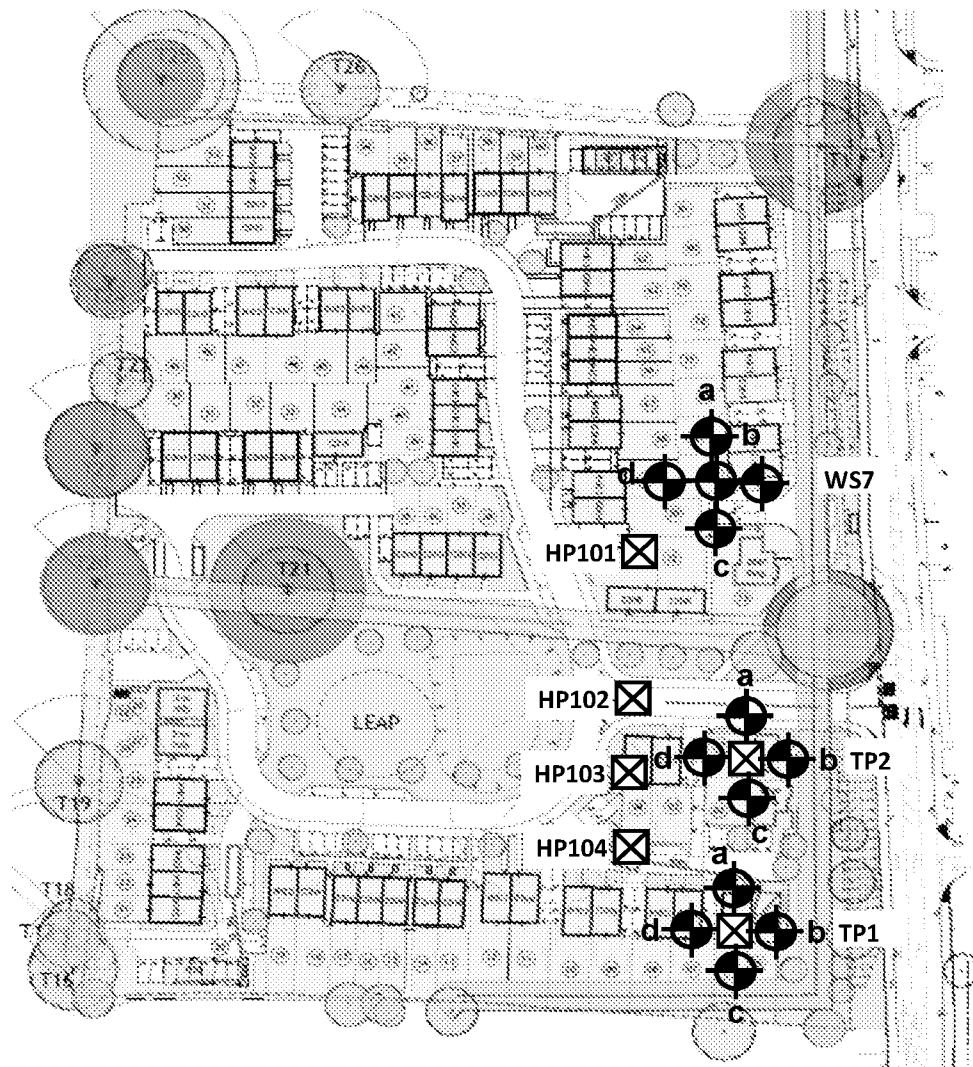
Yours sincerely,
For and on Behalf of Geo-Environmental



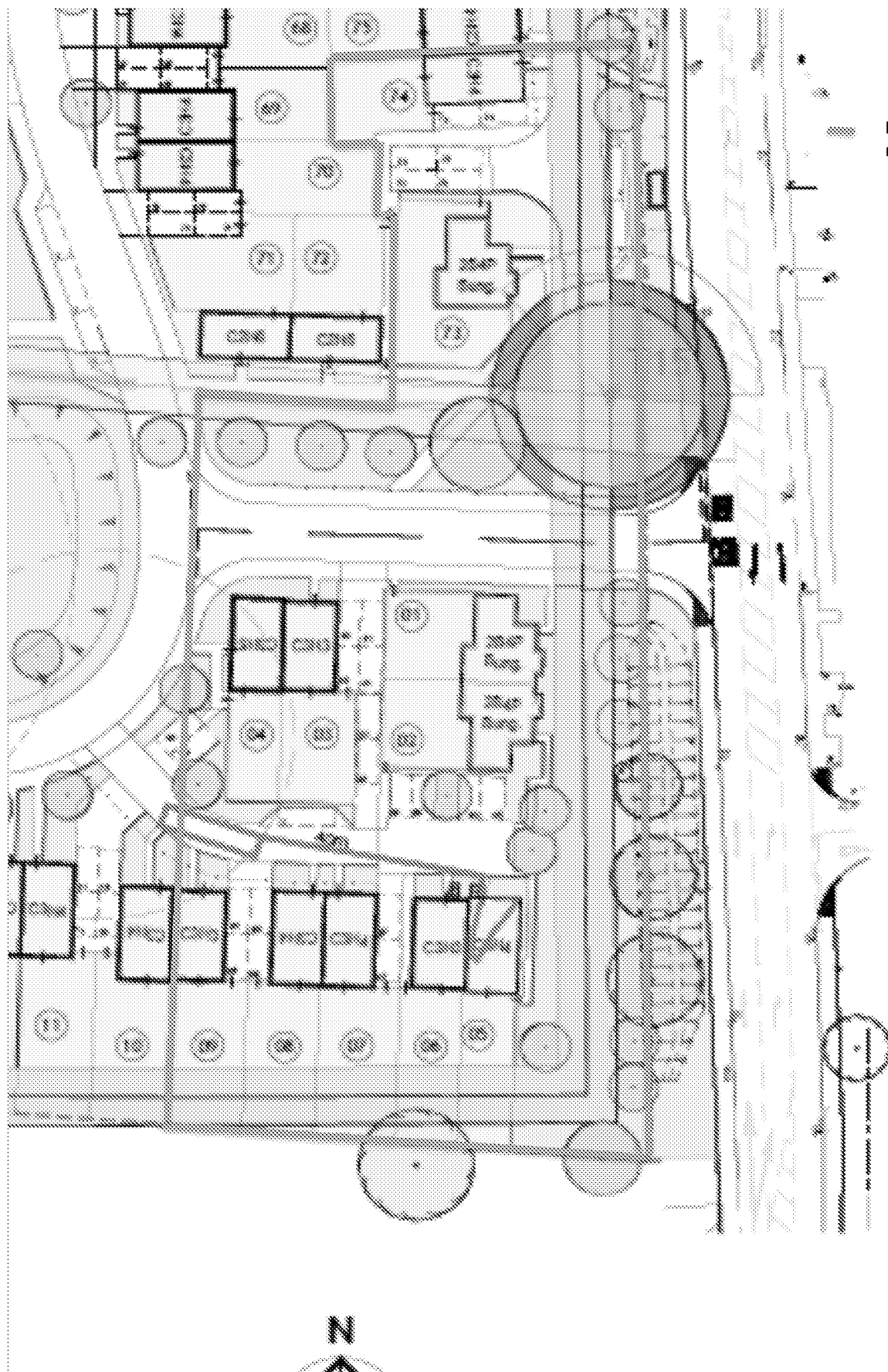
Anthony Potter MSc, BSc (Hons), FGS
Senior Consulting Engineer

Enc	Figure 1	Site Investigation Locations
	Figure 2	Area of Remediation Plan
	Appendix A	Exploratory Hole Logs
	Appendix B	Laboratory Test Results





Project:	Land Off Lidsey Road, Woodgate			Title	Site Investigation Plan	
Client:	Thakeham Client Limited			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net		 Geo-Environmental
Ref No:	GE18679	Revision:	v1			
Drawn:	JK	Date:	30/04/2020			
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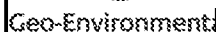


Boundary of area
requiring remediation

Project:	Lidsey Road, Woodgate			Title	Area of Remediation		
Client:	Thakeham Client			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net		 Geo-Environmental	
Ref No:	GE18679	Revision:	1.0				
Drawn:	AP	Date:	18/06/2020				
Figure:	3	Scale:	nts				



Geo-Environmental



Geo-Environment:

Geo-Environment:

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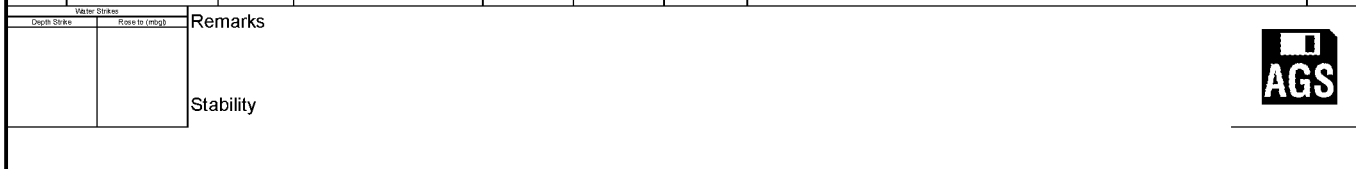
Date
05/05/2020

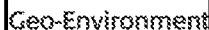
Scale
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Logged

Water Sinks		Remarks
Depth Sink	Flow to (m/s)	
		Stability







BN6 9GL

Trial Pit Log

TP01b

Sheet 1 of 1

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.40

Logged

[illegible][illegible]



Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environment

Trial Pit Log

Trial Pit No

TP01c

Sheet 1 of 1

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.42

Logged

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.08 0.15 0.23 0.42		 	1 2 3 4 5

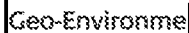
End of Pit at 0.42m

Depth Strike	Notes to (relog)

Remarks

Stability





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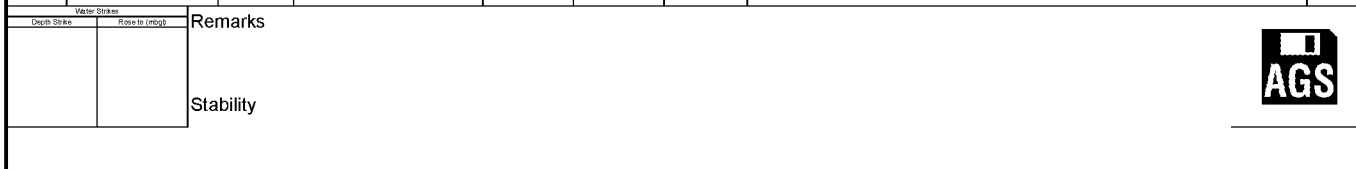
Date
05/05/2020

Scale
1:25

Logged

Water Sinks		Remarks
Depth Sink	Flow to (m/s)	
		Stability





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Trial Pit Log

TrialPit No
TP02a
Sheet 1 of 1

Geo-Environmen

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.30

Logged

[illegible]

Water Strikes	
Depth Strike	Rose to (mbs)

Remarks

Stability





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Trial Pit Log

Trial Pit No
TP02b
Sheet 1 of 1

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.45

Logged

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.24			Dark grey sandy gravelly silt with abundant tarmacadam and occasional rootlets. Gravel comprises fine to medium sub-angular to sub-rounded flint and rare brick.
				0.45			MADE GROUND
							Brown and light brown mottled sandy clayey SILT. RIVER TERRACE DEPOSITS
							End of Pit at 0.45m

Water Strike	Remarks
Depth Strike	Stability





TrialPit No
TP02c
Sheet 1 of 1

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.28

Logged

Water Sinks		Remarks
Depth Sink	Rate to Land	
		Stability







Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environment

Trial Pit Log

Trial Pit No

TP02d

Sheet 1 of 1

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.27

Logged

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.04 0.10 0.20 0.27			Light brown gravelly silt with abundant rootlets. MADE GROUND Compacted pink sandy gravel (TYPE 1) MADE GROUND Dark greyish brown sandy gravelly silt. Gravel comprises fine to medium sub-angular to sub-rounded flint, concrete, rare tarmacadam and brick. MADE GROUND Brown sandy clayey SILT with rare fine sub-angular flint gravel. RIVER TERRACE DEPOSITS End of Pit at 0.27m

Depth Strike	Notes to (enough)

Remarks

Stability





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GJ

Trial Pit Log

Trial Pit No
WS07a
Sheet 1 of 1

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.33

Logged

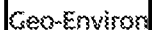
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20 - 0.50	ES		0.27 0.33		 Brown sandy silt with frequent rootlets and roots, and occasional carbonaceous inclusions and rare tarmacadam. MADE GROUND  Light brown clayey sandy SILT with frequent rootlets and occasional roots (1-20mm). RIVER TERRACE DEPOSITS End of Pit at 0.33m	1 2 3 4 5

Depth Strike	Notes to (enq)

Remarks

Stability





END PAGE

TrialPit No
WS07b

Sheet 1 of 1

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

Depth
0.33

Logged

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.30 0.33			Light brown sandy silt with frequent rootlets and roots (1-5mm), and occasional carbonaceous inclusions. MADE GROUND
							Orangish brown sandy clayey SILT with occasional roots (1-15mm) and rare fine to medium sub-angular to sub-rounded flint gravel. RIVER TERRACE DEPOSITS End of Pit at 0.33m

Water Strikes		Remarks
Depth Strike	Rose to (mbg)	
		Stability





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GJ

Trial Pit Log

Trial Pit No
WS07c
Sheet 1 of 1

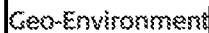
Project Name: Lidsey Road, Woodgate - Further SI
Project No. GE18679
Co-ords: -
Level: -
Date 05/05/2020

Location: Woodgate
Client: Thakeham Client Limited
Dimensions (m):
Depth 0.43
Scale 1:25
Logged

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	ES		0.18			Light brown silty sand with frequent rootlets and roots (1-4mm), rare concrete, brick and carbonaceous inclusions. MADE GROUND
				0.43			Light orangish brown silty fine to medium SAND with frequent rootlets and roots (1-10mm). RIVER TERRACE DEPOSITS End of Pit at 0.43m

Water Strike	Remarks
Depth Strike	Stability





Trial Pit Log

Sheet 1 of 1

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date
05/05/2020

Location: Woodgate

Dimensions
(m):

Scale
1:25

Client: Thakeham Client Limited

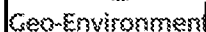
Depth
0.35

Logged

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.15	ES		0.20			Light brown sandy silt with frequent rootlets and roots (1-3mm), rare brick and tarmacadam. MADE GROUND	1 -
				0.35			Light brown and light orangish brown mottled sandy SILT with frequent rootlets and roots (1-5mm) RIVER TERRACE DEPOSITS End of Pit at 0.35m	
								3 -
								4 -
								5 -

<u>Water Strikes</u>		Remarks Stability
<u>Depth Strike</u>	<u>Rose to (mbg)</u>	





Geo-Environment

Geo-Environment

HP101

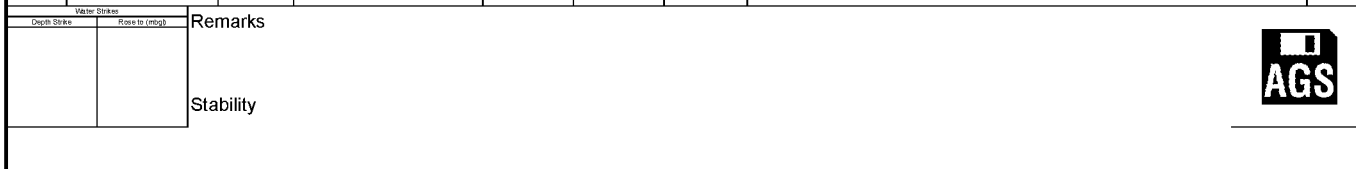
Geo-Environment

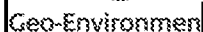
Date _____

Logged

Water Sinks		Remarks
Depth Sink	Flow to (m/s)	
		Stability







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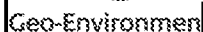
Geo-Environmen

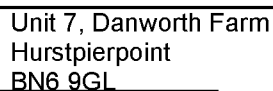
Geo-Environmen

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Geo-Environmen

Geo-Environmen





Trial Pit Log

TrialPit No
HP103

Sheet 1 of 1

Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Co-ords: -
Level:

Date _____

Location: Woodgate

Dimensions
(m):

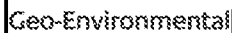
Scale
1:25

Client: Thakeham Client Limited

Depth
0.50

Logged

[illegible][illegible]



Project Name: Lidsey Road, Woodgate - Further SI

Project No.
GE18679

Trial Pit Log

TrialPit No
HP104
Sheet 1 of 1

Location: Woodgate

Client: Thakeham Client Limited

Dimensions
(m):

Depth
0.50

Scale
1:25
Logged

[illegible][illegible]



2683



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 20-28068

Issue: 1

Date of Issue: 18/05/2020

Contact: Jason Kanellis

Customer Details: GESL
Unit 7
Danworth Farm
Hurstpierpoint
West Sussex BN6 9GL

Quotation No: Q19-01488

Order No: 2656

Customer Reference: GE18679

Date Received: 11/05/2020

Date Approved: 18/05/2020

Details: Lidsey Road, Woodgate

Approved by:

Mike Varley, Technical Manager

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Sample Summary

Report No.: 20-28068, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
203728	TP01A 0.15	05/05/2020	11/05/2020	Sandy silty loam	
203729	TP01B 0.20	05/05/2020	11/05/2020	Silty loam	
203730	TP01C 0.20	05/05/2020	11/05/2020	Sandy silty loam	
203731	TP01D 0.15	05/05/2020	11/05/2020	Sandy silty loam	
203732	TP02A 0.20	05/05/2020	11/05/2020	Sandy silty loam	
203733	TP02B 0.15	05/05/2020	11/05/2020	Sandy silty loam	
203734	TP02C 0.20	05/05/2020	11/05/2020	Sandy silty loam	
203735	TP02D 0.15	05/05/2020	11/05/2020	Sandy silty loam	
203736	WS07A 0.20	05/05/2020	11/05/2020	Silty loam	
203737	WS07B 0.20	05/05/2020	11/05/2020	Silty loam	
203738	WS07C 0.10	05/05/2020	11/05/2020	Silty loam	
203739	WS07D 0.15	05/05/2020	11/05/2020	Silty loam	



Results Summary

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Report No.: 20-28068, issue number 1

ELAB Reference				203728	203729	203730	203731	203732
Customer Reference								
Sample ID								
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				TP01A	TP01B	TP01C	TP01D	TP02A
Sample Depth (m)				0.15	0.20	0.20	0.15	0.20
Sampling Date				05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Material removed	N	%	0.1	55.2	37.6	56.6	53.4	48.5
Description of Inert material removed	N		0	Stones, Clinker	Stones	Stones	Stones	Stones
Metals								
Arsenic	M	mg/kg	1	10.5	19.0	11.0	9.6	11.3
Beryllium	U	mg/kg	1	1.3	< 1.0	1.7	< 1.0	2.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.7	0.7	0.8
Chromium	M	mg/kg	5	36.8	21.4	23.4	20.6	29.4
Copper	M	mg/kg	5	38.1	26.8	29.3	19.2	36.7
Lead	M	mg/kg	5	130	90.5	97.2	57.9	131
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	15.6	14.6	14.2	14.3	14.8
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	52.1	34.8	50.6	29.1	46.8
Zinc	M	mg/kg	5	102	99.2	138	84.2	165
Anions								
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.04	0.03	0.04	< 0.02	0.03
Inorganics								
Elemental Sulphur	M	mg/kg	20	35	< 20	28	75	34
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	5	< 2	9	3	14
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.11	0.08	0.08	0.05	0.09
Water Soluble Boron	N	mg/kg	0.5	1.4	1.3	1.2	0.9	0.9
Miscellaneous								
pH	M	pH units	0.1	8.1	8.1	8.3	8.5	9.2
Total Organic Carbon	N	%	0.01	4.9	4.2	5.3	3.9	3.5
Phenols								
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	0.9	0.1	0.6	3.3	0.5
Acenaphthylene	M	mg/kg	0.1	4.0	1.1	3.4	13.2	5.2
Acenaphthene	M	mg/kg	0.1	4.2	0.7	4.3	19.6	0.8
Fluorene	M	mg/kg	0.1	3.7	0.3	4.1	19.8	0.7
Phenanthrene	M	mg/kg	0.1	38.2	6.0	45.2	133	9.5
Anthracene	M	mg/kg	0.1	12.8	2.3	15.0	71.1	5.9
Fluoranthene	M	mg/kg	0.1	84.5	18.6	106	305	33.7
Pyrene	M	mg/kg	0.1	79.4	18.3	97.3	298	34.8
Benzo(a)anthracene	M	mg/kg	0.1	47.3	12.4	54.5	174	24.3
Chrysene	M	mg/kg	0.1	45.2	12.1	52.0	165	24.7
Benzo(b)fluoranthene	M	mg/kg	0.1	46.6	11.6	47.2	169	32.5
Benzo(k)fluoranthene	M	mg/kg	0.1	40.5	12.8	47.7	158	28.7
Benzo(a)pyrene	M	mg/kg	0.1	51.4	13.4	55.1	197	36.9
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	43.6	12.7	46.4	161	35.6
Dibenzo(a,h)anthracene	M	mg/kg	0.1	8.6	2.9	8.9	33.1	7.3
Benzo[g,h,i]perylene	M	mg/kg	0.1	38.5	12.9	38.8	137	43.5
Total PAH(16)	M	mg/kg	0.4	550	138	626	2060	325

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Results Summary

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Report No.: 20-28068, issue number 1

ELAB Reference				203728	203729	203730	203731	203732
Customer Reference								
Sample ID								
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				TP01A	TP01B	TP01C	TP01D	TP02A
Sample Depth (m)				0.15	0.20	0.20	0.15	0.20
Sampling Date				05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Determinand	Codes	Units	LOD					
BTEX								
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
MTBE	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH CWG								
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	1.1	< 1.0	< 1.0	1.6	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	9.4	< 1.0	5.6	16.7	1.3
>C16-C21 Aliphatic	N	mg/kg	1	24.3	2.5	17.8	32.6	12.2
>C21-C35 Aliphatic	N	mg/kg	1	225	42.9	208	154	254
>C35-C40 Aliphatic	N	mg/kg	1	131	17.2	149	50.9	231
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	1.1	< 1.0	1.2	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	1.7	< 1.0	< 1.0	1.7	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	21.2	1.5	15.0	31.1	5.1
>C16-C21 Aromatic	N	mg/kg	1	119	18.8	94.7	192	40.6
>C21-C35 Aromatic	N	mg/kg	1	997	233	822	1380	898
>C35-C40 Aromatic	N	mg/kg	1	383	79.2	401	290	645
Total (>C5-C40) Ali/Aro	N	mg/kg	1	1910	396	1710	2150	2090
OrganoChlorine Pesticides								
alpha-HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
beta_HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
gamma-HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
delta-HCH	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Heptachlor	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Aldrin	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Heptachlor expoxide	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
trans-Chlordane	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
alpha cis-Chlordane	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
p,p-DDE	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Dieldrin	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endrin	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
p,p-DDD	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endosulfan II	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endrin aldehyde	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
p,p-DDT	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endosulphan sulphate	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Methoxychlor	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endrin ketone	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t

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Results Summary

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Report No.: 20-28068, issue number 1

ELAB Reference	203733	203734	203735	203736	203737
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP02B	TP02C	TP02D	WS07A	WS07B
Sample Depth (m)	0.15	0.20	0.15	0.20	0.20
Sampling Date	05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020

Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Material removed	N	%	0.1	48.5	46.2	44.4	< 0.1	< 0.1
Description of Inert material removed	N		0	Stones	Stones	Stones	None	None
Metals								
Arsenic	M	mg/kg	1	11.0	15.0	11.3	11.1	11.3
Beryllium	U	mg/kg	1	2.0	1.5	< 1.0	1.3	1.2
Cadmium	M	mg/kg	0.5	0.6	< 0.5	0.6	0.6	< 0.5
Chromium	M	mg/kg	5	25.2	38.8	24.7	24.1	24.4
Copper	M	mg/kg	5	28.9	28.2	26.3	33.7	29.0
Lead	M	mg/kg	5	104	85.3	72.4	131	120
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	15.7	13.2	12.9	18.7	18.3
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	61.5	42.4	36.7	36.4	35.9
Zinc	M	mg/kg	5	115	107	111	144	135
Anions								
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.03	0.02	0.02	< 0.02	< 0.02
Inorganics								
Elemental Sulphur	M	mg/kg	20	23	21	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	9	5	10	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.10	0.07	0.11	0.05	0.05
Water Soluble Boron	N	mg/kg	0.5	1.1	0.7	0.7	1.0	0.8
Miscellaneous								
pH	M	pH units	0.1	9.5	8.9	8.8	7.7	7.6
Total Organic Carbon	N	%	0.01	4.5	3.0	2.9	2.7	3.4
Phenols								
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	1.3	0.5	0.2	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	4.7	2.2	1.8	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	8.8	0.3	0.5	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	7.5	0.3	0.5	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	62.1	3.9	4.7	< 0.1	0.2
Anthracene	M	mg/kg	0.1	19.8	2.8	2.5	0.1	0.1
Fluoranthene	M	mg/kg	0.1	85.4	16.2	16.5	0.4	0.7
Pyrene	M	mg/kg	0.1	63.8	17.1	18.1	0.3	0.6
Benzo(a)anthracene	M	mg/kg	0.1	46.4	11.8	10.8	0.2	0.5
Chrysene	M	mg/kg	0.1	47.2	12.0	11.6	0.3	0.5
Benzo(b)fluoranthene	M	mg/kg	0.1	47.0	14.4	15.0	0.3	0.6
Benzo(k)fluoranthene	M	mg/kg	0.1	41.2	14.3	12.9	0.3	0.6
Benzo(a)pyrene	M	mg/kg	0.1	46.7	16.5	16.2	0.4	0.6
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	41.9	14.6	15.9	0.4	0.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	9.6	3.6	3.3	< 0.1	0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	36.4	15.8	14.6	0.7	0.3
Total PAH(16)	M	mg/kg	0.4	570	146	145	3.8	5.4

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Results Summary

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Report No.: 20-28068, issue number 1

ELAB Reference				203733	203734	203735	203736	203737
Customer Reference								
Sample ID								
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				TP02B	TP02C	TP02D	WS07A	WS07B
Sample Depth (m)				0.15	0.20	0.15	0.20	0.20
Sampling Date				05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Determinand	Codes	Units	LOD					
BTEX								
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
MTBE	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH CWG								
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	2.0	12.3	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	9.4	16.4	39.1	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	276	307	476	2.4	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	282	331	513	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	2.5	2.6	7.3	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	24.2	27.3	74.1	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	751	644	966	10.6	8.0
>C35-C40 Aromatic	N	mg/kg	1	700	506	836	6.6	2.9
Total (>C5-C40) Ali/Aro	N	mg/kg	1	2040	1840	2920	19.6	10.8
OrganoChlorine Pesticides								
alpha-HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
beta_HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
gamma-HCH	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
delta-HCH	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Heptachlor	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Aldrin	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Heptachlor expoxide	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
trans-Chlordane	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
alpha cis-Chlordane	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
p,p-DDE	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Dieldrin	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endrin	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
p,p-DDD	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endosulfan II	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endrin aldehyde	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
p,p-DDT	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endosulphan sulphate	M	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Methoxychlor	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t
Endrin ketone	N	ug/kg	10	< 10	n/t	n/t	n/t	n/t

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Results Summary

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Report No.: 20-28068, issue number 1

ELAB Reference	203738	203739
Customer Reference		
Sample ID		
Sample Type	SOIL	SOIL
Sample Location	WS07C	WS07D
Sample Depth (m)	0.10	0.15
Sampling Date	05/05/2020	05/05/2020

Determinand	Codes	Units	LOD		
Soil sample preparation parameters					
Material removed	N	%	0.1	< 0.1	< 0.1
Description of Inert material removed	N		0	None	None
Metals					
Arsenic	M	mg/kg	1	9.8	10.3
Beryllium	U	mg/kg	1	< 1.0	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	20.5	21.8
Copper	M	mg/kg	5	21.8	27.5
Lead	M	mg/kg	5	129	137
Mercury	M	mg/kg	0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	15.3	16.9
Selenium	M	mg/kg	1	< 1.0	< 1.0
Vanadium	M	mg/kg	5	33.2	33.3
Zinc	M	mg/kg	5	111	133
Anions					
Water Soluble Chloride	M	mg/kg	40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02
Inorganics					
Elemental Sulphur	M	mg/kg	20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0
Acid Soluble Sulphate (SO ₄)	U	%	0.02	0.06	0.07
Water Soluble Boron	N	mg/kg	0.5	0.8	0.8
Miscellaneous					
pH	M	pH units	0.1	7.6	7.7
Total Organic Carbon	N	%	0.01	2.3	2.5
Phenols					
Total Phenols	N	mg/kg	6	< 6	< 6
Polyaromatic hydrocarbons					
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	0.3	0.1
Phenanthrene	M	mg/kg	0.1	0.2	0.3
Anthracene	M	mg/kg	0.1	< 0.1	0.2
Fluoranthene	M	mg/kg	0.1	0.6	1.3
Pyrene	M	mg/kg	0.1	0.5	1.1
Benzo(a)anthracene	M	mg/kg	0.1	0.3	0.7
Chrysene	M	mg/kg	0.1	0.3	0.8
Benzo(b)fluoranthene	M	mg/kg	0.1	0.4	0.7
Benzo(k)fluoranthene	M	mg/kg	0.1	0.5	0.9
Benzo(a)pyrene	M	mg/kg	0.1	0.4	0.8
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	0.3	0.7
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.3
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.4	0.6
Total PAH(16)	M	mg/kg	0.4	4.3	8.5

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Results Summary

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ELAB Reference	203738	203739
Customer Reference		
Sample ID		
Sample Type	SOIL	SOIL
Sample Location	WS07C	WS07D
Sample Depth (m)	0.10	0.15
Sampling Date	05/05/2020	05/05/2020

Determinand	Codes	Units	LOD		
BTEX					
Benzene	M	ug/kg	10	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0
MTBE	N	ug/kg	10	< 10.0	< 10.0
TPH CWG					
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	8.1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	5.2	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	1.2	1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	2.8	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	29.5	7.3
>C35-C40 Aromatic	N	mg/kg	1	20.4	3.3
Total (>C5-C40) Ali/Aro	N	mg/kg	1	67.3	11.6
OrganoChlorine Pesticides					
alpha-HCH	M	ug/kg	10	n/t	n/t
beta_HCH	M	ug/kg	10	n/t	n/t
gamma-HCH	M	ug/kg	10	n/t	n/t
delta-HCH	N	ug/kg	10	n/t	n/t
Heptachlor	N	ug/kg	10	n/t	n/t
Aldrin	M	ug/kg	10	n/t	n/t
Heptachlor expoxide	N	ug/kg	10	n/t	n/t
trans-Chlordane	N	ug/kg	10	n/t	n/t
alpha cis-Chlordane	N	ug/kg	10	n/t	n/t
p,p-DDE	M	ug/kg	10	n/t	n/t
Dieldrin	M	ug/kg	10	n/t	n/t
Endrin	N	ug/kg	10	n/t	n/t
p,p-DDD	M	ug/kg	10	n/t	n/t
Endosulfan II	N	ug/kg	10	n/t	n/t
Endrin aldehyde	N	ug/kg	10	n/t	n/t
p,p-DDT	M	ug/kg	10	n/t	n/t
Endosulphan sulphate	M	ug/kg	10	n/t	n/t
Methoxychlor	N	ug/kg	10	n/t	n/t
Endrin ketone	N	ug/kg	10	n/t	n/t

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Results Summary

Report No.: 20-28068, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
203728	0.15	TP01A	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203729	0.20	TP01B	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203730	0.20	TP01C	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203731	0.15	TP01D	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203732	0.20	TP02A	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203733	0.15	TP02B	Brown Soil, Stones, Clinker, Brick, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203734	0.20	TP02C	Brown Soil, Stones, Clinker	No asbestos detected	n/t	n/t	n/t	n/t
203735	0.15	TP02D	Brown Soil, Stones, Clinker	No asbestos detected	n/t	n/t	n/t	n/t
203736	0.20	WS07A	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203737	0.20	WS07B	Brown Soil, Stones, Brick, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
203738	0.10	WS07C	Brown Soil, Stones, Clinker, Concrete, Plant	No asbestos detected	n/t	n/t	n/t	n/t
203739	0.15	WS07D	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 20-28068, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	13/05/2020	109	Colorimetry
Hexavalent chromium	N	As submitted sample	12/05/2020	110	Colorimetry
pH	M	Air dried sample	14/05/2020	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	13/05/2020	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	12/05/2020	118	ICPMS
Phenols in solids	N	As submitted sample	12/05/2020	121	HPLC
Elemental Sulphur	M	Air dried sample	12/05/2020	122	HPLC
PAH (GC-FID)	M	As submitted sample	12/05/2020	133	GC-FID
Water soluble anions	M	Air dried sample	12/05/2020	172	Ion Chromatography
Organochlorine Pesticides in solids	M	As submitted sample	12/05/2020	173	GC-MS
Low range Aliphatic hydrocarbons soil	N	As submitted sample	14/05/2020	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	14/05/2020	181	GC-MS
BTEX in solids	M	As submitted sample	14/05/2020	181A	GC-MS
Water soluble boron	N	Air dried sample	12/05/2020	202	Colorimetry
Total cyanide	M	As submitted sample	12/05/2020	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	14/05/2020	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	18/05/2020	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	18/05/2020	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	18/05/2020	214	GC-FID
Asbestos identification	U	Air dried sample	18/05/2020	PMAN	Microscopy

Tests marked N are not UKAS accredited



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Report Information

Report No.: 20-28068, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

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

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



2683



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 20-28383

Issue: 1

Date of Issue: 11/06/2020

Contact: Ed Newman

Customer Details: GESL
Unit 7
Danworth Farm
Hurstpierpoint
West Sussex BN6 9GL

Quotation No: Q19-01488

Order No: PO-2656

Customer Reference: GE18679

Date Received: 08/06/2020

Date Approved: 11/06/2020

Details: Lidsey Road, Woodgate

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 20-28383, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
205511	HP101 0.20	02/06/2020	08/06/2020	Silty loam	
205512	HP102 0.50	02/06/2020	08/06/2020	Silty loam	
205513	HP103 0.40	02/06/2020	08/06/2020	Silty loam	
205514	HP104 0.20	02/06/2020	08/06/2020	Silty loam	
205515	Asbestos Sample 0.20	02/06/2020	08/06/2020		



Results Summary

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Report No.: 20-28383, issue number 1

ELAB Reference	205511	205512	205513	205514
Customer Reference				
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	HP101	HP102	HP103	HP104
Sample Depth (m)	0.20	0.50	0.40	0.20
Sampling Date	02/06/2020	02/06/2020	02/06/2020	02/06/2020

Determinand	Codes	Units	LOD				
Soil sample preparation parameters							
Material removed	N	%	0.1	< 0.1	< 0.1	< 0.1	38.2
Description of Inert material removed	N		0	None	None	None	Stones
Metals							
Arsenic	M	mg/kg	1	7.8	6.2	6.2	10.1
Beryllium	U	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	21.5	19.0	21.6	22.2
Copper	M	mg/kg	5	13.8	12.6	11.2	18.2
Lead	M	mg/kg	5	32.6	17.3	16.0	46.5
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	12.0	11.3	12.5	13.9
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	30.6	26.0	29.3	33.3
Zinc	M	mg/kg	5	66.7	43.6	45.4	84.0
Anions							
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02	< 0.02	0.03
Inorganics							
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	1.4
Acid Soluble Sulphate (SO ₄)	U	%	0.02	0.03	0.05	0.05	0.04
Water Soluble Boron	N	mg/kg	0.5	0.8	< 0.5	< 0.5	0.9
Miscellaneous							
pH	M	pH units	0.1	6.7	6.6	6.7	7.8
Total Organic Carbon	N	%	0.01	2.1	0.70	0.52	2.6
Phenols							
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.9
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.3
Fluoranthene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	2.8
Pyrene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	2.8
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	1.7
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	1.7
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	2.4
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	1.9
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	2.2
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	2.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.6
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	2.1
Total PAH(16)	M	mg/kg	0.4	0.5	< 0.4	< 0.4	21.9

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Results Summary

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Report No.: 20-28383, issue number 1

ELAB Reference	205511	205512	205513	205514
Customer Reference				
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	HP101	HP102	HP103	HP104
Sample Depth (m)	0.20	0.50	0.40	0.20
Sampling Date	02/06/2020	02/06/2020	02/06/2020	02/06/2020

Determinand	Codes	Units	LOD				
BTEX							
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
MTBE	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
TPH CWG							
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	4.6
>C35-C40 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	1.6
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	1.7	1.1	1.0	7.4
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	1.1
>C10-C12 Aromatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	1.1
>C16-C21 Aromatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	6.5
>C21-C35 Aromatic	M	mg/kg	1	3.9	1.2	1.2	59.1
>C35-C40 Aromatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	11.8
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	5.5	2.2	2.2	79.9
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	7.2	3.3	3.2	87.3
OrganoChlorine Pesticides							
alpha-HCH	M	ug/kg	10	n/t	n/t	< 10	n/t
beta_HCH	M	ug/kg	10	n/t	n/t	< 10	n/t
gamma-HCH	M	ug/kg	10	n/t	n/t	< 10	n/t
delta-HCH	N	ug/kg	10	n/t	n/t	< 10	n/t
Heptachlor	N	ug/kg	10	n/t	n/t	< 10	n/t
Aldrin	M	ug/kg	10	n/t	n/t	< 10	n/t
Heptachlor expoxide	N	ug/kg	10	n/t	n/t	< 10	n/t
trans-Chlordane	N	ug/kg	10	n/t	n/t	< 10	n/t
alpha cis-Chlordane	N	ug/kg	10	n/t	n/t	< 10	n/t
p,p-DDE	M	ug/kg	10	n/t	n/t	< 10	n/t
Dieldrin	M	ug/kg	10	n/t	n/t	< 10	n/t
Endrin	N	ug/kg	10	n/t	n/t	< 10	n/t
p,p-DDD	M	ug/kg	10	n/t	n/t	< 10	n/t
Endosulfan II	N	ug/kg	10	n/t	n/t	< 10	n/t
Endrin aldehyde	N	ug/kg	10	n/t	n/t	< 10	n/t
p,p-DDT	M	ug/kg	10	n/t	n/t	< 10	n/t
Endosulphan sulphate	M	ug/kg	10	n/t	n/t	< 10	n/t
Methoxychlor	N	ug/kg	10	n/t	n/t	< 10	n/t
Endrin ketone	N	ug/kg	10	n/t	n/t	< 10	n/t

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Results Summary
Report No.: 20-28383, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
In this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
205511	0.20	HP101	Brown Soil, Stones, Clinker, Plant Material	No asbestos detected	n/t	n/t	n/t	n/t
205512	0.50	HP102	Brown Soil, Stones	No asbestos detected	n/t	n/t	n/t	n/t
205513	0.40	HP103	Brown Soil, Stones	No asbestos detected	n/t	n/t	n/t	n/t
205514	0.20	HP104	Brown Soil, Stones, Clinker, Concrete, Plant	No asbestos detected	n/t	n/t	n/t	n/t
205515	0.20	Asbestos Sample	Asbestos Cement Fragment	Chrysotile (Asbestos Cement Fragment	n/t	n/t	n/t	n/t

Method Summary

Report No.: 20-28383, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	09/06/2020	109	Colorimetry
Hexavalent chromium	N	As submitted sample	09/06/2020	110	Colorimetry
pH	M	Air dried sample	09/06/2020	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	10/06/2020	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	09/06/2020	118	ICPMS
Phenols in solids	N	As submitted sample	09/06/2020	121	HPLC
Elemental Sulphur	M	Air dried sample	09/06/2020	122	HPLC
PAH (GC-FID)	M	As submitted sample	09/06/2020	133	GC-FID
Water soluble anions	M	Air dried sample	09/06/2020	172	Ion Chromatography
Organochlorine Pesticides in solids	M	As submitted sample	10/06/2020	173	GC-MS
Low range Aliphatic hydrocarbons soil	N	As submitted sample	10/06/2020	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	10/06/2020	181	GC-MS
BTEX in solids	M	As submitted sample	10/06/2020	181A	GC-MS
Water soluble boron	N	Air dried sample	09/06/2020	202	Colorimetry
Total cyanide	M	As submitted sample	10/06/2020	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	10/06/2020	210	IR
TPH CWG soil by gc-gc	M	As submitted sample	08/06/2020	214	
Asbestos identification	U	Air dried sample	11/06/2020	PMAN	Microscopy

Tests marked N are not UKAS accredited



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Report Information

Report No.: 20-28383, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

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

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage