

Our Ref AMP/14862CO/67/LMA

24 March 2020

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For the attention of Mr Stuart Dunlop, Pollution Control Officer

By Email only –
stuart.dunlop@hackney.gov.uk

Dear Stuart

**STONE STUDIOS, 80 TO 84 & 88 WALLIS ROAD, HACKNEY WICK E9 5LN
- RADIELLO CARTRIDGE AIR MONITORING FOR VOC & SVOC**

This letter reports the findings of the sixty-seventh round of air monitoring around the boundary of the above site by RSA Geotechnics Limited, at the request of Telford Homes PLC. Following the continuous monitoring undertaken during the bulk excavation of the basement areas of the site between May and September 2019, the monitoring was paused on cessation of earthworks. The monitoring recommenced on 28 October 2019, in advance of the remaining earthworks to be undertaken in the corridor area between the two basements; these works started on 18 November 2019.

The monitoring detailed in this report covers the period between 5 and 13 March 2020. The monitoring was for works undertaken in the northern part of the corridor area between the basements. Excavation works were paused from 4 December 2019 to evaluate the control of groundwater and were re-started on 29 January 2020. Significant excavation works during the monitoring period ceased on 28 February.

1. Introduction

Earlier investigation of the site identified the potential for significant odour/vapour release during development. CFA piling works brought to surface hydrocarbon contaminated soils, as identified within the earlier site investigation. Some odours were reported, and odour/vapour issues were more pronounced during the initial bulk excavation phase for basement construction for Block A in September 2018; these works were ceased due to odour issues at that time.

Bulk earthworks recommenced under a new methodology on 7 May 2019. A detailed programme of daily site monitoring was maintained during these works, including continuous PID monitoring on the site boundary and on Wallis Road, as well as sampling and testing of ambient air to confirm concentrations are acceptable. This is supplemented by passive monitoring at the site boundary and in the surrounding area, as detailed in this report, which is reported on a nominal weekly basis.

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Radiello 130 passive diffusive sampling tubes are installed at five locations around the perimeter of the site, at two residential receptor locations to the west and north of the site, and on the boundary of Mossbourne Academy School to the east of the site. This monitoring enables measurement of time-weighted average concentrations of BTEX, VOC and SVOC. Testing for speciated total petroleum hydrocarbons (TPH) is also undertaken, for two locations on the site boundary (Locations T1 and T2) and one location at the school (Location T3). Monitoring locations are as illustrated on drawing number 14862CO/2 Version B. As above, this passive longer-term monitoring is supplemented by additional monitoring and sampling in 'real-time' during active works on site.

Key volatile constituents of the contamination at the site were considered to be benzene and naphthalene, and these compounds have been adopted as markers for the initial assessment of contamination.

Initial assessment was undertaken adopting the EH40 Workplace Exposure Limit (WEL) for 8 hour time-weighted average (TWA) exposure for benzene of 1 ppm (3.25 mg/m³). There is no UK WEL screening value for naphthalene, however, the US Occupational Safety and Health Administration (OSHA) sets a Permissible Exposure limit (PEL) of 10 ppm (50 mg/m³) for naphthalene in workplace air (8 hour TWA). The National Institute for Occupational Safety and Health (NIOSH) 'immediately dangerous to life or health' (IDLH) screening value for naphthalene in air is 250 ppm.

A detailed air quality assessment was subsequently undertaken by Peak Environmental Solutions, to determine human health risk based vapour monitoring criteria for adjacent land users, taking into account adjacent and distal commercial, school and residential receptors, for the main earthworks proposed to be undertaken over a period of nominally 10 weeks. The assessment report was submitted to LLDC, Hackney Council and PHE for review, and a revised version of the report was submitted on 17 January 2019 to LLDC responding to queries raised on the initial review of the report. The screening values are influenced by the duration of the works; the longer the exposure, the lower the thresholds. A Technical Note was issued in April 2019 providing threshold values for works of 10, 15, 20 and 25 weeks, and was supplemented by a further Technical Note in December 2019 providing threshold values for 30, 40 and 52-week exposure. Tables 1a and 1b below summarise threshold values for 10, 25 and 40 week exposure:

Table 1a – Passive Threshold-Uc Criteria in mg/m³				
Substance	Passive Threshold-Uc in mg/m ³ 10-25-40 week exposure			
	Adjacent	Distal		
	Commercial & Passer-by	Commercial	School	Residential
Naphthalene	0.16-0.06-0.04**	0.16-0.06-0.04**	0.06-0.02-0.014**	0.04-0.015-0.0094**
Sum TPH	25-20-13	25-20-13	18-7-4.7	10-5-3.1
Aliphatic TPH C5-C6	Via Sum TPH	Via Sum TPH	Via Sum TPH	Via Sum TPH
Aliphatic TPH C6-8				
Aliphatic TPH C8-10				
Aliphatic TPH C10-12				
Aliphatic TPH C12-16				
Aromatic TPH C5-7 (threshold Benzene)				
Aromatic TPH C7-8 (Toluene)	7.4-4.1-2.6	7.4-4.1-2.6	1.8-0.8-0.5	1.3-0.54-0.34
Aromatic TPH C8-C10				
Aromatic TPH C10-12				
Aromatic TPH C12-16	0.3-0.18-0.11	0.3-0.18-0.11	0.2-0.08-0.05**	0.14-0.055-0.034**
Sum Methylnaphthalenes				
Benzene	0.19-0.11-0.067*	0.19-0.11-0.067*	0.13-0.05-0.032*	0.09-0.035-0.022*
Toluene	Pragmatic 10-4.7-2.9	Pragmatic 10-4.7-2.9	4-1.9-1.7	3-1.3-1.1
Ethylbenzene			1.7	1.1
Sum Xylenes			1.2	0.8
Sum TMB	0.14-0.08-0.05**	0.14-0.08-0.05**	0.04-0.02-0.01**	0.03-0.01-0.0065**

Notes: These thresholds take into account parameter CF-est where relevant (correction factor for time-weighted average concentrations).
* =Benzene Criteria for the residential receptor is approaching the UK AQS (0.005) so needs to be applied with caution.
** =Naphthalene, methylnaphthalene and TMB criteria are very low, so need to be applied with caution.

Table 1b – Active Threshold-Uc Criteria in mg/m³				
Substance	Active Threshold-Uc in mg/m ³ 10-25-40 week exposure			
	Adjacent	Distal		
	Commercial & Passer-by	Commercial	School	Residential
Naphthalene	0.55-0.22-0.14	0.55-0.22-0.14	0.19-0.08-0.048**	0.04-0.015-0.0094**
Sum TPH	100-74-46	100-74-46	60-25-16	10-5-3.1
Aliphatic TPH C5-C6	Via Sum TPH	Via Sum TPH	Via Sum TPH	Via Sum TPH
Aliphatic TPH C6-8				
Aliphatic TPH C8-10				
Aliphatic TPH C10-12				
Aliphatic TPH C12-16				
Aromatic TPH C5-7 (threshold Benzene)				
Aromatic TPH C7-8 (Toluene)	35-14-15	35-14-9	6-2.7-1.7	1.3-0.54-0.34
Aromatic TPH C8-C10				
Aromatic TPH C10-12				
Aromatic TPH C12-16	1.5-0.61-0.38	1.5-0.61-0.38	0.7-0.28-0.17	0.14-0.055-0.034
Sum Methylnaphthalenes				
Benzene	0.9-0.37-0.23	0.9-0.37-0.23	0.44-0.18-0.11	0.09-0.035-0.022*
Toluene	Pragmatic 10	Pragmatic 10	Pragmatic 5-5-4	3-1.3-1.1
Ethylbenzene				1.1
Sum Xylenes				0.8
Sum TMB	0.45-0.27-0.17	0.45-0.27-0.17	0.13-0.053-0.033	0.03-0.01-.0065**

Notes: * =Benzene Criteria for the residential receptor is approaching the UK AQS (0.005) so needs to be applied with caution.
** =Naphthalene, methylnaphthalene and TMB criteria are very low, so need to be applied with caution.

The values in Table 1a are used in the assessment of results from the time-weighted average passive sorbent tube monitoring, while the values in Table 1b are relevant to comparison with active 'real-time' sampling using vacuum canisters, pumped sorbent tubes or other methods.

2. Fieldwork

The sixty-seventh round of monitoring discussed in this report was undertaken over an eight-day period between 5 and 13 March 2020.

3. Laboratory Analysis

Cross reference between the laboratory test references and the sample locations is given in Table 3.

Table 3 – Laboratory reference and sample location summary	
Location	Laboratory sample reference
V1	X876Z
V2	X879Z
V3	X870Z
V4	X869Z
V5	X875Z
V6	X874Z
V7	X871Z
V8	X872Z
T1	X877Z
T2	X878Z
T3	X873Z

The laboratory analysis included suites of both VOCs and SVOCs. The results were calculated as time-weighted average concentrations.

Concentrations of VOCs and SVOCs were all below the detection limit for the test method, of 1 µg/m³ (equivalent to 0.0003 ppm for benzene).

Threshold values are influenced by the duration of the exposure; thresholds will be lower for an extended earthworks period. Re-assessment will be undertaken as the works progress to ensure the thresholds remain protective.

It should be noted that the methods of test for VOC and SVOC are significantly different; VOC analysis is undertaken using headspace analysis while the SVOC analysis uses a solvent to desorb determinands from the sampling tube prior to analysis. Consequently there may be some variation in concentrations of determinands measured depending on the method of analysis.

Testing for speciated total petroleum hydrocarbons (TPH) was undertaken at two locations on the site boundary and one location at the school (Locations T1, T2 and T3). All locations recorded concentrations to be below the detection limit for the test method of 100 µg/m³.

4. Conclusions

Concentrations of VOC, SVOC and BTEX were well below the screening values adopted for assessment, as described in this letter report.

Monitoring will be maintained during active earthworks activities at the site, and will be reported nominally on a weekly basis.

Should you require any further information or assistance, please do not hesitate to contact us.

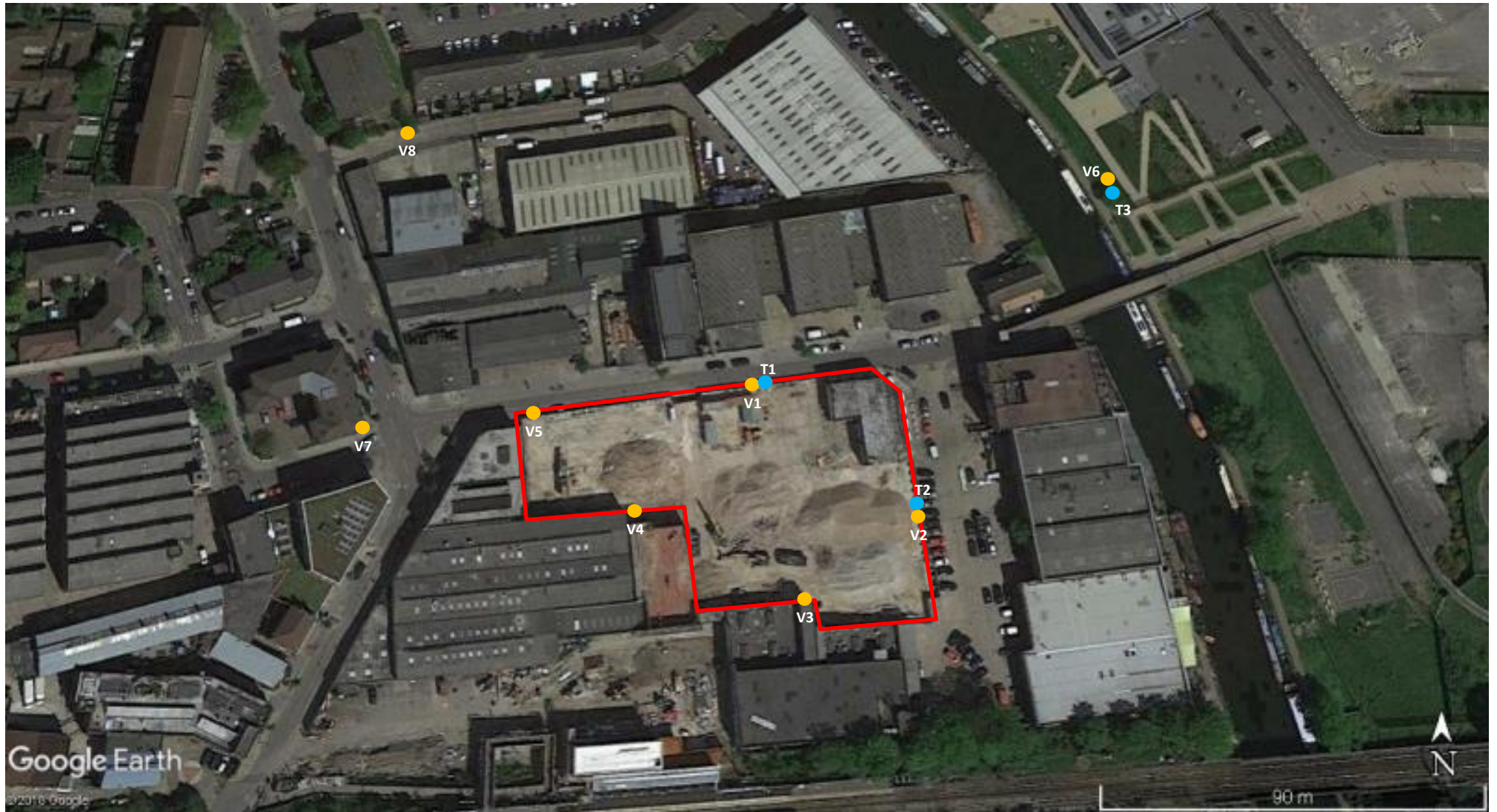
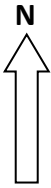
Yours sincerely
RSA Geotechnics Ltd



Adrian Phillips, FGS
Technical Director

Encs Passive Air Monitoring - Drawing Number 14862CO/2 Version B
Laboratory Test Reports (ELAB, 20-27509 & 57133)

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Google Earth

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90 m

<p>PASSIVE AIR MONITORING (Based upon Google earth image)</p> <p>80 - 84 AND 88 WALLIS ROAD, HACKNEY WICK, E9 5LN</p>	<p>NOTE: All locations are approximate</p> <p>Date 8 MARCH 2019</p>
	<p>Scale NOT TO SCALE</p>
<p>RSA GEOTECHNICS LIMITED</p>	<p>Drawing No 14862CO/2 Version B</p>



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 20-27509

Issue: 1

Date of Issue: 20/03/2020

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Quotation No: Q18-01116

Order No: 14862CO

Customer Reference: 14862CO

Date Received: 16/03/2020

Date Approved: 20/03/2020

Details: Wallis Road Air Monitoring 5 to 13 March 2020

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.: 20-27509, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
199967	X876Z RTV1	13/03/2020	16/03/2020		
199968	X879Z RTV2	13/03/2020	16/03/2020		
199969	X870Z RTV3	13/03/2020	16/03/2020		
199970	X869Z RTV4	13/03/2020	16/03/2020		
199971	X875Z RTV5	13/03/2020	16/03/2020		
199972	X874Z RTV6	13/03/2020	16/03/2020		
199973	X871Z RTV7	13/03/2020	16/03/2020		
199974	X872Z RTV8	13/03/2020	16/03/2020		



Results Summary

Report No.: 20-27509, issue number 1

				ELAB Reference	199967	199968	199969	199970	199971	199972	199973	199974
				Customer Reference	RTV1	RTV2	RTV3	RTV4	RTV5	RTV6	RTV7	RTV8
				Sample ID								
				Sample Type	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS
				Sample Location	X876Z	X879Z	X870Z	X869Z	X875Z	X874Z	X871Z	X872Z
				Sample Depth (m)								
				Sampling Date	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020
Determinand	Codes	Units	LOD									
VOC												
MTBE	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Heptane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Octane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nonane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ethylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
m+p-xylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
o-xylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-dichloroethene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloromethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,1-Trichloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,1,2-Tetrachloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylethylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloro-1-propene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trans - 1-2 -dichloroethylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,2-Dichloropropane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromochloromethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloro-1-propene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
trans-1,3-Dichloro-1-propene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3-Dichloropropane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromoethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Propylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorotoluene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Chlorotoluene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
t-butylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-methylpropylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
p-cymene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Butylbenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-2-3 - Trichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-2-4 - Trichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1



Results Summary

Report No.: 20-27509, issue number 1

				ELAB Reference	199967	199968	199969	199970	199971	199972	199973	199974
				Customer Reference	RTV1	RTV2	RTV3	RTV4	RTV5	RTV6	RTV7	RTV8
				Sample ID								
				Sample Type	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS
				Sample Location	X876Z	X879Z	X870Z	X869Z	X875Z	X874Z	X871Z	X872Z
				Sample Depth (m)								
				Sampling Date	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020	13/03/2020
Determinand	Codes	Units	LOD									
SVOC												
Phenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Aniline	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-chloroethyl)ether	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzyl Alcohol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Methylphenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-chloroisopropyl)ether	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3 and 4-methylphenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
N-Nitrosodi-n-propylamine	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachloroethane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Nitrobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Isophorone	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Nitrophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4-Dimethylphenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-chloroethoxy)methane	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4-Dichlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trichlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3-Chloroaniline	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachloro-1,3-butadiene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Chloro-3-methylphenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Methylnaphthalene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-Methylnaphthalene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorocyclopentadiene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4,6-Trichlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,4,5-Trichlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-Chloronaphthalene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Nitroaniline	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,4-Dinitrobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dimethyl phthalate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-3-dinitrobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-6-dinitrotoluene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Acenaphthylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dinitrobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3-Nitroaniline	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Acenaphthene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-nitrophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibenzofuran	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,3,5,6-Tetrachlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2,3,4,6-Tetrachlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Diethyl phthalate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-chloro-4-phenoxybenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Fluorene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
4-Nitroaniline	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dinitro-o-cresol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Diphenylamine	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Azobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1-bromo-4-phenoxybenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobenzene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Pentachlorophenol	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Phenanthrene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Anthracene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbazole	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibutyl phthalate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Fluoranthene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Pyrene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Butyl benzyl phthalate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis-2-ethylhexyladipate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Diisooctyl phthalate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzo(a)anthracene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chrysene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bis(2-ethylhexyl)phthalate	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzo(b)fluoranthene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzo(k)fluoranthene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzo(a)pyrene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Indeno(1,2,3-CD)pyrene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibenz(ah)anthracene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzo(ghi)perylene	N	µg/m3	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1



Method Summary

Report No.: 20-27509, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
SVOC - Tubes	N		16/03/2020	167	GC-MS
VOC - Tubes	N		16/03/2020	181	GC-MS

Tests marked N are not UKAS accredited



Report Information

Report No.: 20-27509, 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



Unit A2
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East Sussex
TN38 9BY
Telephone (01424) 718618
Facsimile (01424) 729911

THE ENVIRONMENTAL LABORATORY LTD

Adrian Phillips
RSA Geotechnics Ltd
1 Maitland Road
Needham Market
Suffolk, IP6 8NZ

Reporting Date: 23 March 2020

ANALYTICAL REPORT No. 57133

Samples Received By: Laboratory Courier
Sample Receipt Date: 16/03/20
Your Job No: 14862CO
Your Order No: 14862CO
Site Location: Wallis Road Air Monitoring 5 to 13 March 2020
No Samples Received: 3
Date of Sampling: 13/03/20

This report was written by: Stuart Ballard

Authorised By;

Mike Varley
Technical Manager (BSc, CChem
CSci, FRSC)

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

THE ENVIRONMENTAL LABORATORY LTD

Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards On Sea, East Sussex, TN38 9BY

Tel: 01424 718618 Fax: 01424 729911

ANALYTICAL REPORT No. 57133

Location: Wallis Road Air Monitoring 5 to 13 March 2020



Your Job No: 14862C0
Your Order No: 14862C0
Reporting Date: 23/03/20

F.A.O. Adrian Phillips
RSA Geotechnics Ltd
1 Maitland Road
Needham Market
Suffolk, IP6 8NZ

TPH CWG - Tubes

Characteristic	TUBE	TUBE	TUBE
Date Sampled	13/03/20	13/03/20	13/03/20
TP/BH	X877Z - RT T1	X878Z - RT T2	X873Z - RT V3
Our ref	38610	38611	38612
<u>Aromatic</u>			
>EC ₅ -EC ₇	(µg/m ³)	<100	<100
>EC ₇ -EC ₈	(µg/m ³)	<100	<100
>EC ₈ -EC ₁₀	(µg/m ³)	<100	<100
>EC ₁₀ -EC ₁₂	(µg/m ³)	<100	<100
>EC ₁₂ -EC ₁₆	(µg/m ³)	<100	<100
>EC ₁₆ -EC ₂₁	(µg/m ³)	<100	<100
>EC ₂₁ -EC ₃₅	(µg/m ³)	<100	<100
>EC ₃₅ -EC ₄₀	(µg/m ³)	<100	<100
<u>Aliphatic</u>			
>EC ₅ -EC ₆	(µg/m ³)	<100	<100
>EC ₆ -EC ₈	(µg/m ³)	<100	<100
>EC ₈ -EC ₁₀	(µg/m ³)	<100	<100
>EC ₁₀ -EC ₁₂	(µg/m ³)	<100	<100
>EC ₁₂ -EC ₁₆	(µg/m ³)	<100	<100
>EC ₁₆ -EC ₂₁	(µg/m ³)	<100	<100
>EC ₂₁ -EC ₃₅	(µg/m ³)	<100	<100
>EC ₃₅ -EC ₄₀	(µg/m ³)	<100	<100
TPH (C ₅ - C ₄₀)	(µg/m ³)	<100	<100

All results expressed on dry weight basis

** - MCERTS accredited test

Stuart Ballard



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THE ENVIRONMENTAL LABORATORY LTD

SAMPLE RECEIPT AND TEST DATES

Our Analytical Report Number 57133
Your Ref No: 14862CO
Sample Receipt Date: 16/03/20
Reporting Date: 23/03/20

Registered: 16/03/20
Prepared: 16/03/20
Analysis complete: 23/03/20

TEST METHOD SUMMARY

PARAMETER	Analysis Undertaken on	Date Tested	Method Number	Technique
Carbon Banding (TPH CWG)	As submitted sample	23/03/20	214	Gas chromatography

Note:- Documented In-house procedure based on HSG 248 2005

** - MCERTS Accredited test

Determinands not marked with * or ** are not accredited

MCERTS accreditation covers samples which are predominantly sand, clay, loam or combinations of these three soil types

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