

Our Ref AMP/14862CO/3

ASHBURNHAM HOUSE  
1 MAITLAND ROAD  
LION BARN ESTATE  
NEEDHAM MARKET  
SUFFOLK  
IP6 8NZ  
Telephone (01449) 723 723  
Fax (01449) 723 907  
[www.rsa-geotechnics.co.uk](http://www.rsa-geotechnics.co.uk)



2 October 2018

London Borough of Hackney  
Hackney Service Centre  
1 Hillman Street  
Hackney  
London  
E8 1DY

**For the attention of Mr Steven Pye, Pollution Control Officer**

By Email only –  
[steven.pye@hackney.gov.uk](mailto:steven.pye@hackney.gov.uk)

Dear Steven

**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 third round of ongoing air monitoring around the boundary of the above site by RSA Geotechnics Limited, at the request of Telford Homes PLC. The monitoring covers the period between 14 and 21 September 2018.

## 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 have been reported, and odour/vapour issues were more pronounced during the recent bulk excavation phase for basement construction for Block A.

Air monitoring will be maintained for the duration of the groundworks by RSA Geotechnics Limited to assess concentrations of volatile organic compounds at the perimeter of the site during the bulk excavation works and enable the assessment of potential risks to off-site receptors. Radiello 130 passive diffusive sampling tubes have been installed at five locations around the perimeter of the site, to enable measurement of time weighted average concentrations of BTEX and VOC. A sixth monitoring point has recently been installed off-site, as discussed below. Monitoring locations are as illustrated on drawing number 14862G12/9.

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.

The EH40 Workplace Exposure Limit (WEL) for 8 hour time-weighted average (TWA) exposure for benzene of 1 ppm (3.25 mg/m<sup>3</sup>) has been adopted for initial

assessment. In the absence of a short-term (15 minute) exposure limit (STEL) a value equivalent to three times the 8 hour TWA is commonly adopted (3 ppm).

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/m<sup>3</sup>) 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.

## 2. Fieldwork

The third round of monitoring discussed in this report was undertaken over a seven day period between 14 and 21 September 2018, during which time the reduced level basement excavation for Block A was in progress. Works were stopped on Friday 21 September following concerns over odour/vapour release from the site, following discussion with the regulatory authorities.

## 3. Laboratory Analysis

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

Concentrations of VOCs including benzene were below the detection limit for the test method, of 1 µg/m<sup>3</sup> (0.0003 ppm).

Naphthalene concentrations ranged between <1 µg/m<sup>3</sup> to 1000 µg/m<sup>3</sup> (0.19 ppm). This was significantly higher than concentrations recorded during piling operations. The highest concentration of 1000 µg/m<sup>3</sup> was recorded at location 4, which was mounted on the rear (southern) boundary brick wall in the vicinity of the dewatering plant; it is likely that the concentrations were influenced by this activity. The next highest concentration was 280 µg/m<sup>3</sup> (0.0525 ppm) at location 1, on the northern site boundary. Concentrations were all well below the OSHA PEL value of 10 ppm for workplace exposure.

2-methylnaphthalene and 1-methylnaphthalene were also recorded at location 4, at respective concentrations of 67 and 30 µg/m<sup>3</sup>. There are no EH40 WEL screening values for these determinands.

Some measurable concentrations for SVOC TIC (Tentatively Identified Compounds) were recorded. There are no UK screening values for the majority of these compounds. A concentration of 581 µg/m<sup>3</sup> was recorded for 1,2,3-trimethylbenzene; the EH40 WEL (8 hr TWA) for trimethylbenzenes (all isomers or mixtures) is 25 ppm or 125000 µg/m<sup>3</sup>, so the recorded concentration is considered very low.

## 4. Conclusions

Time-weighted average concentrations of benzene in the atmosphere were below the detection limit for the test method, of 0.0003 ppm, and well below the adopted initial screening value of 1 ppm.

The highest measured concentration of naphthalene of 0.19 ppm was considerably below the OSHA PEL of 10 ppm, and was localised on site, with concentration not recorded above 0.0525 ppm at the other monitoring locations on the site.

The above assessment is predominantly focussed on occupational exposure, given the immediate commercial site setting. Due to recent reports of vapour/odour further from the site, including the school approximately 100 m to the north east, the assessment is currently under revision, to provide an enhanced assessment of the potential impact to off-site receptors, and with a view to modifying site practices to reduce any impact to acceptable levels.

It would be expected that concentrations beyond the site boundary would rapidly diminish to levels well below those recorded on site, however an additional passive monitoring tube location has been established at the school to enable measurement of concentrations of VOC/SVOC at this location (Location 6 on drawing number 14862CO/9).

This position was installed on Thursday 27 September 2018, and Location 6 will be monitored on a weekly basis moving forward.

The air monitoring indicates that there are no time-weighted average exceedances of workplace screening values for benzene and naphthalene at the site perimeter. The monitoring is continuing at present and a revised assessment of off-site receptors more remote from the site will be presented in due course.

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 Locations for Passive Air and Vapour Monitoring  
 – Drawing Number 14862GI2/9  
 Laboratory Test Report (ELAB, 18-19711)

Copy (Email) to: Jason Lumb (Arup) [jason.lumb@arup.com](mailto:jason.lumb@arup.com)  
 Jeff Widd (Arup) [jeff.widd@arup.com](mailto:jeff.widd@arup.com)  
 Russell Butchers (LLDC) [russellbutchers@londonlegacy.co.uk](mailto:russellbutchers@londonlegacy.co.uk)  
 LLDC [lldc@arup.com](mailto:lldc@arup.com)  
 Stephen Pedro (Telford Homes) [stephen.pedro@telfordhomes.london](mailto:stephen.pedro@telfordhomes.london)  
 Fintan Mooney (Telford Homes) [fintan.mooney@telfordhomes.london](mailto:fintan.mooney@telfordhomes.london)