

Royal Borough of Kensington and Chelsea

Fox Primary School

Golder Associates (UK) Ltd Monitoring Results

Swab Samples

Background swab samples were taken from surfaces within the school building and in external areas. On 26 May, during demolition of Fox Cottage, swab samples were taken from ceramic tiles which were placed at locations within the school building and in external areas prior to commencement of demolition works. Weather conditions were hot and dry.

Swab samples were analysed for lead content by the Institute of Occupational Medicine. All samples were taken over a defined area to allow analysis results to be presented in units of weight per area (micrograms of lead per square centimetre).

The results of both rounds of monitoring are presented below:

Background Sampling Round – 13 May 2015		
Sample	Lead microgram s/cm²	Sample Location
1	18.9	Exterior sample - ground floor - southern side of school building - exterior window sill
2	0.46	Exterior sample - southern side of school building - steps to embankment
3	<0.01	Exterior sample - southern playground - blackboard (upper surface)
4	6.76	Exterior sample - northern playground - floor - rodding eye cover close to double doors to hall
5	0.03	Exterior sample - northern playground - floor to south of Fox Cottage
6	0.13	Exterior sample - northern playground, window sill in area of table tennis tables (north)
7	0.03	Exterior sample - northern playground, window sill to corridor in area of table tennis tables (south)
8	0.71	Interior sample - ground floor - northern side of school building - hall - interior window ledge to east of double doors to playground
9	<0.01	Interior sample - ground floor - southern side of school building - temporary office/reception - shelving near window
10	<0.01	Interior sample - first floor - northern side of school building - window sill
11	0.05	Interior sample - first floor - northern side of school building - window sill



1. Window sill rear playground (right)



2. Bottom step to rear garden (front right)



5. White spot nearest wall/door



6. Window sill at TT Tables (left)



3. Blackboard top (front right)



4. Grid top to left of main entrance



7. Main corridor window sill (right)



8. Middle hall window sill inside (right front)



9. School office top shelf to right of window



10. Classroom I middle window sill (front left)



11. Classroom E Right window (left front)

First Sampling Round - 26 May 2015		
Sample	Lead micrograms /cm²	Sample Location
Fox A	<0.003	Interior sample - ground floor - northern side of school building - hall - interior window ledge to east of double doors to playground
Fox B	<0.003	Interior sample - ground floor - southern side of school building - interior windowsill to classroom
Fox C	0.017	Interior sample - 1st floor - northern side of school building - interior window ledge to office
Fox D	<0.003	Interior sample - 1st floor - southern side of school building - interior window ledge to classroom
Fox G	0.041	Exterior sample - north of school building - embankment - fence adjacent to table
Fox I	0.412	Exterior sample - northern playground, window sill, near door to toilet block within working area
Fox J	0.01	Exterior sample - southern playground - blackboard (upper surface)
Fox K	0.078	Exterior sample - southern playground - window sill (first window from door to toilet block)
Fox L	0.066	Exterior sample - northern playground - upper surface of canopy to visitors entrance
Fox M	0.039	Exterior sample - northern playground - upper surface of lintel above double doors to hall
Fox N	0.02	Exterior sample - northern playground - upper surface of drinking fountain
Fox P	0.0128	Exterior sample - southern playground - window sill to school building
Fox Q	0.04	Exterior sample - southern playground - roof of shed to east of gum tree

There is no UK guidance for the assessment of lead swab analysis. The results of sampling have been compared to values derived by a Golder toxicologist based on US Environmental Protection Agency screening criteria, but adapted for a school setting and are intended to be protective of the health of primary school children. Values consider floors and window sills.

The values against which concentration have been compared to are:

- Floors: 0.224 micrograms/cm²
- Window sills: 1.36 micrograms/cm²

Based on the results of the first round of sampling during the demolition of Fox Cottage, concentrations of lead do not exceed the relevant screening values.

Background samples show 4 locations where screening values are exceeded; in the other 7 locations, concentrations are less than screening values and in 3 locations are less than laboratory detection limits. Locations in which elevated concentrations have been identified comprise an external window sill with a painted finish in poor condition, painted metal steps to the embankment, an external floor which lies beneath a window sill, and an internal window sill beneath a painted metal window.

Air Monitoring

Background air samples were taken from within the school building and in external areas. On 26 May, during demolition, air samples were taken from the same locations.

Samples were analysed for lead content by the Institute of Occupational Medicine. Samples were taken over a defined time period at a known flow rate to allow analysis results to be presented in units of weight per volume (micrograms of lead per m³ of air).

The results of both rounds of monitoring are presented below:

Background Sampling Round - 13 May 2015

Sample	Lead micrograms/m ³	Sample Location
1	<0.24	Hallway to northern school entrance
2	<0.27	Embankment (northern end)
3	<0.31	Southern playground (western end)
4	<0.26	Internal corridor adjacent to adult toilet
5	<0.28	Embankment (southern end)
6	<0.25	Northern playground (western end)

First Sampling Round - 26 May 2015

Sample	Lead micrograms/m ³	Sample Location
1	<0.3	Hallway to northern school entrance
2	<0.3	Embankment (northern end)
3	<0.3	Southern playground (western end)
4	<0.3	Internal corridor adjacent to adult toilet
5	<0.3	Embankment (southern end)
6	<0.3	Northern playground (western end)

Results have been compared to the European Air Quality Standard for lead (0.5 micrograms per m³ of air). All results are less than the Air Quality Standard and less than laboratory detection limits.

Conclusion

Based on the monitoring undertaken during the demolition, at this stage control measures appear to be effective in mitigating fugitive lead dusts from demolition and should be maintained.