

# **Briefing on the findings of the Inspection of the Stonegate and Trent Park Estates, Willenhall**

under the provisions of  
Part 2A of the Environmental Protection Act 1990

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Land Quality Management Ltd

23 January 2019

# Part 2A of the Environmental Protection Act 1990

- Inserted into EPA 1990 by the Environment Act 1995
- Came into force in 2000 when Statutory Guidance published
- Amended version came into effect in April 2012 (after determination of Stonegate Estate in March 2012)
- LQM assessment is under the 2012 legislation

# Part 2A Environmental Protection Act 1990

Section 78A(2):

“contaminated land” is any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that –

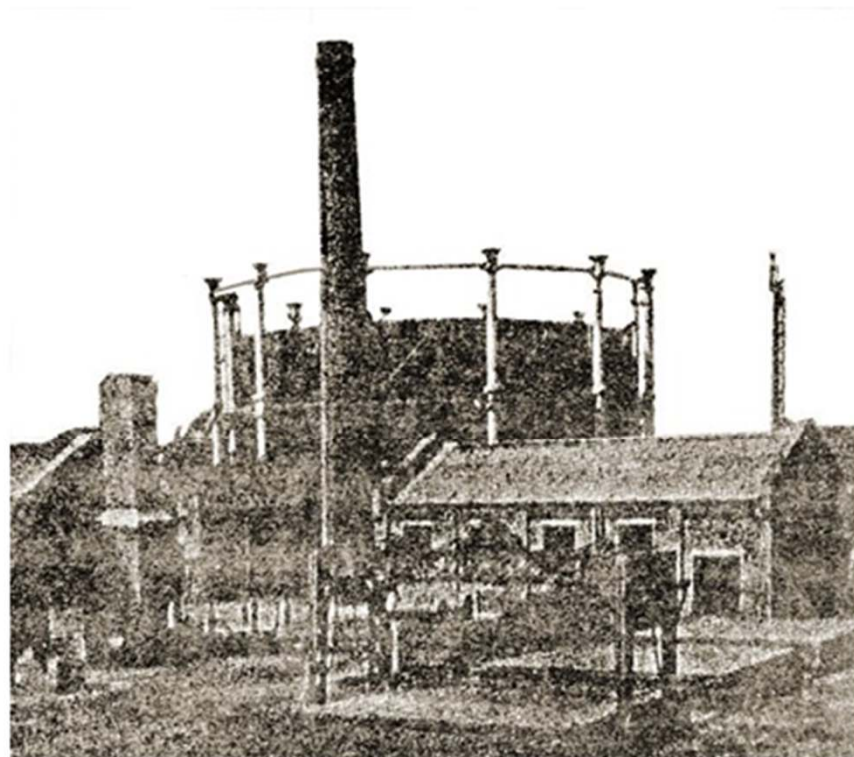
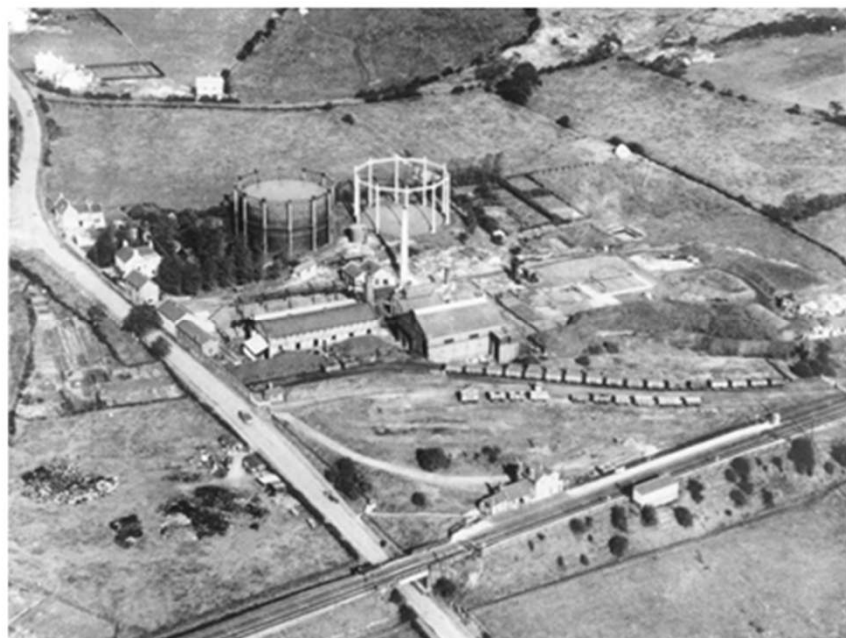
**(a) significant harm** is being caused or there is a **significant possibility of such harm** being caused; or

(b) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused;....

# Part 2A Land classification

- Significant Harm
  - Significant possibility of significant harm (Category 1)
  - Significant possibility of significant harm (Category 2)
- 
- authority considers that regulatory intervention under Part 2A is not warranted; strong case for taking action under Part 2A on a precautionary basis does not exist (Category 3)
  - No linkage, normal levels, generic assessment criteria not exceeded, exposure only a small proportion of total exposure (Category 4)

# Willenhall gasworks



- Before North Sea gas, coal was heated to generate gas and coke in gasworks
- Several thousand gasworks were in operation in the 19<sup>th</sup> & 20<sup>th</sup> centuries
- Since they were closed, many have been redeveloped for housing
- Three are preserved as museums
- Gasworks wastes contain heavy metals and organic chemicals derived from coal

# Timeline


- 2000 *Part 2A, Environmental Protection Act 1990 comes into effect*
- Pre-2006 enquiries reveal estates built on former gasworks
- 2006-2012 WMBC/ AECOM investigations
- 2012 some properties determined as contaminated land  
*Part 2A amended*
- 2015 remediation notice served  
remediation notice appealed
- 2017 appeal upheld by planning inspector and Secretary of State  
LQM appointed to review work
- 2018 LQM carry out further site investigation and risk assessment
- 2019 LQM conclude land NOT contaminated land

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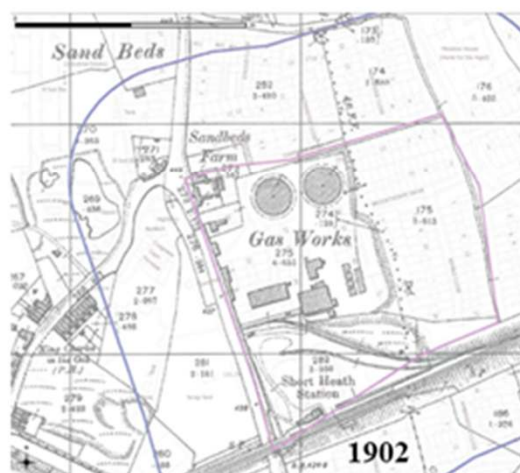


Residential areas  
investigated by LQM  
2018


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	Project Name : <b>Stonegate Estate - Former Willenhall Gasworks</b> Factual Report	Project Number: <b>1339-1</b>
Client : <b>Walsall Metropolitan Borough Council</b>	Figure Title : <b>Site location and residential areas investigated by LQM in 2018</b>	Figure No.: <b>1</b> A3

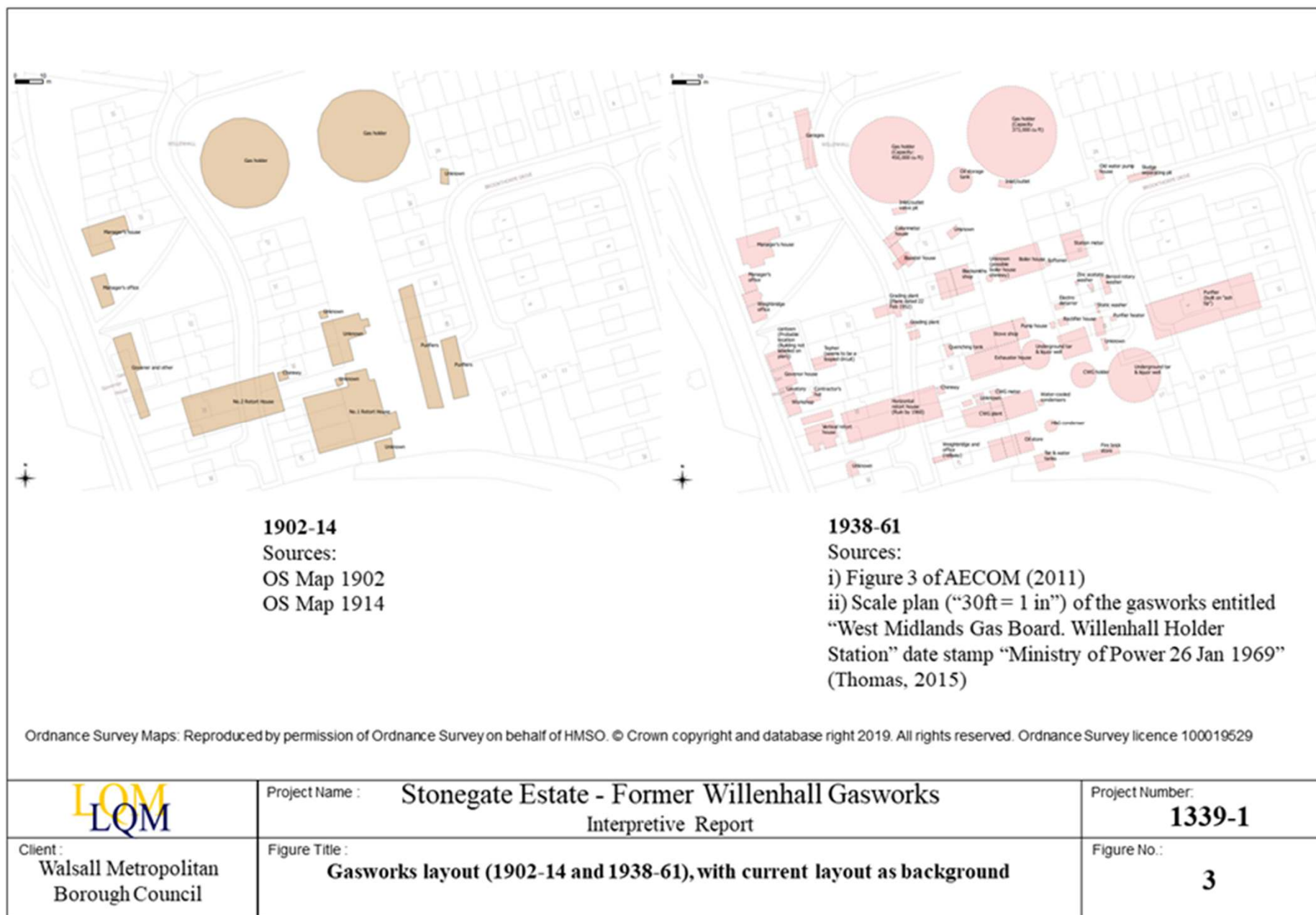
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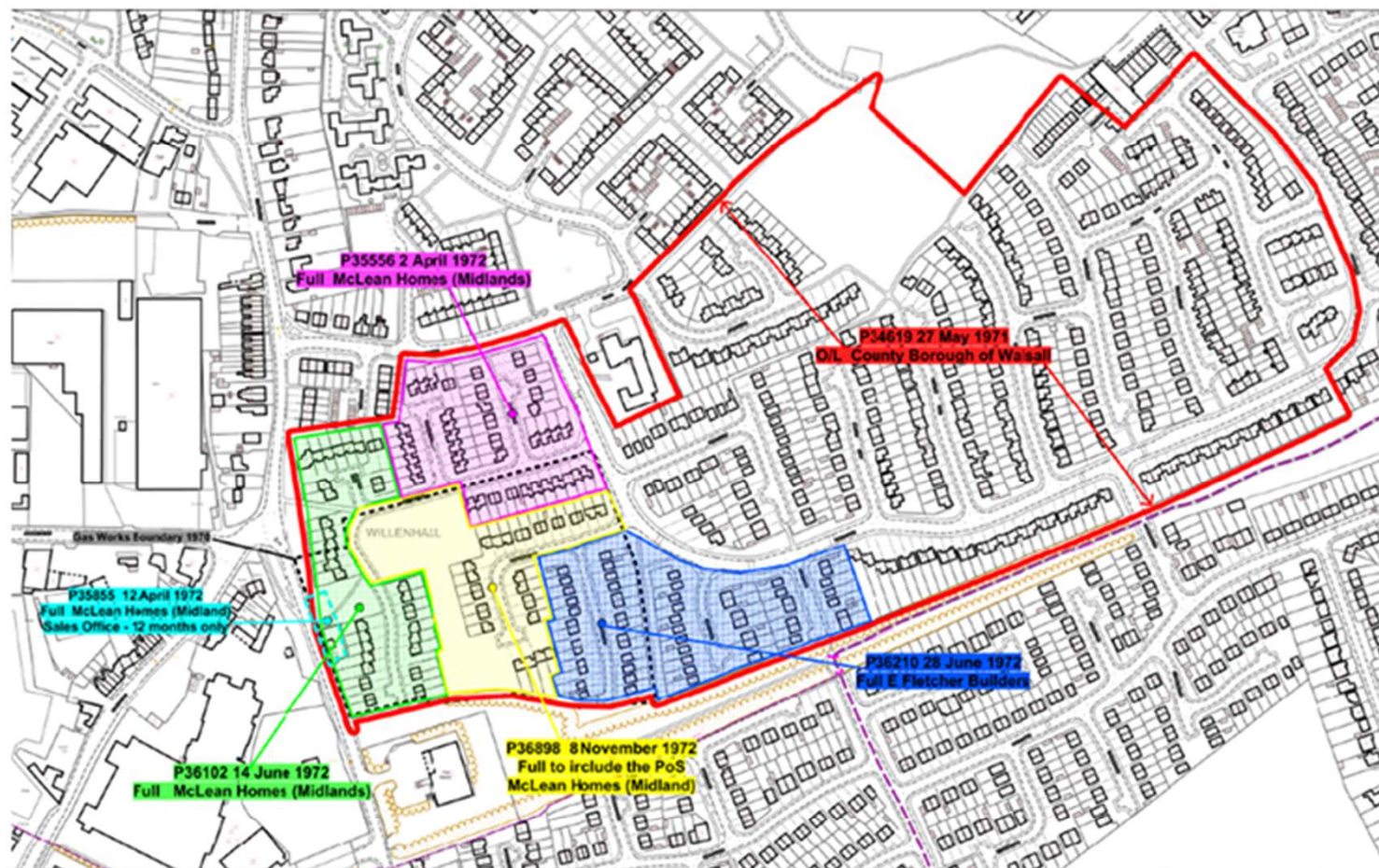
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	Project Name : <b>Stonegate Estate - Former Willenhall Gasworks</b> Interpretive Report	Project Number: <b>1339-1</b>
Client : Walsall Metropolitan Borough Council	Figure Title : <b>Progressive development of the gas works (OS Mapping, 1886-1974, 1:2500 or 1:1250)          with current layout as background</b>	Figure No.: <b>2</b>


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Client : <b>Walsall Metropolitan Borough Council</b>	Figure Title : <b>Planning history of the Site provided by WMBC (Supplied as an email attachment from Ian Jarrett on the 30<sup>th</sup> May 2018)</b>	Figure No.: <b>4</b>

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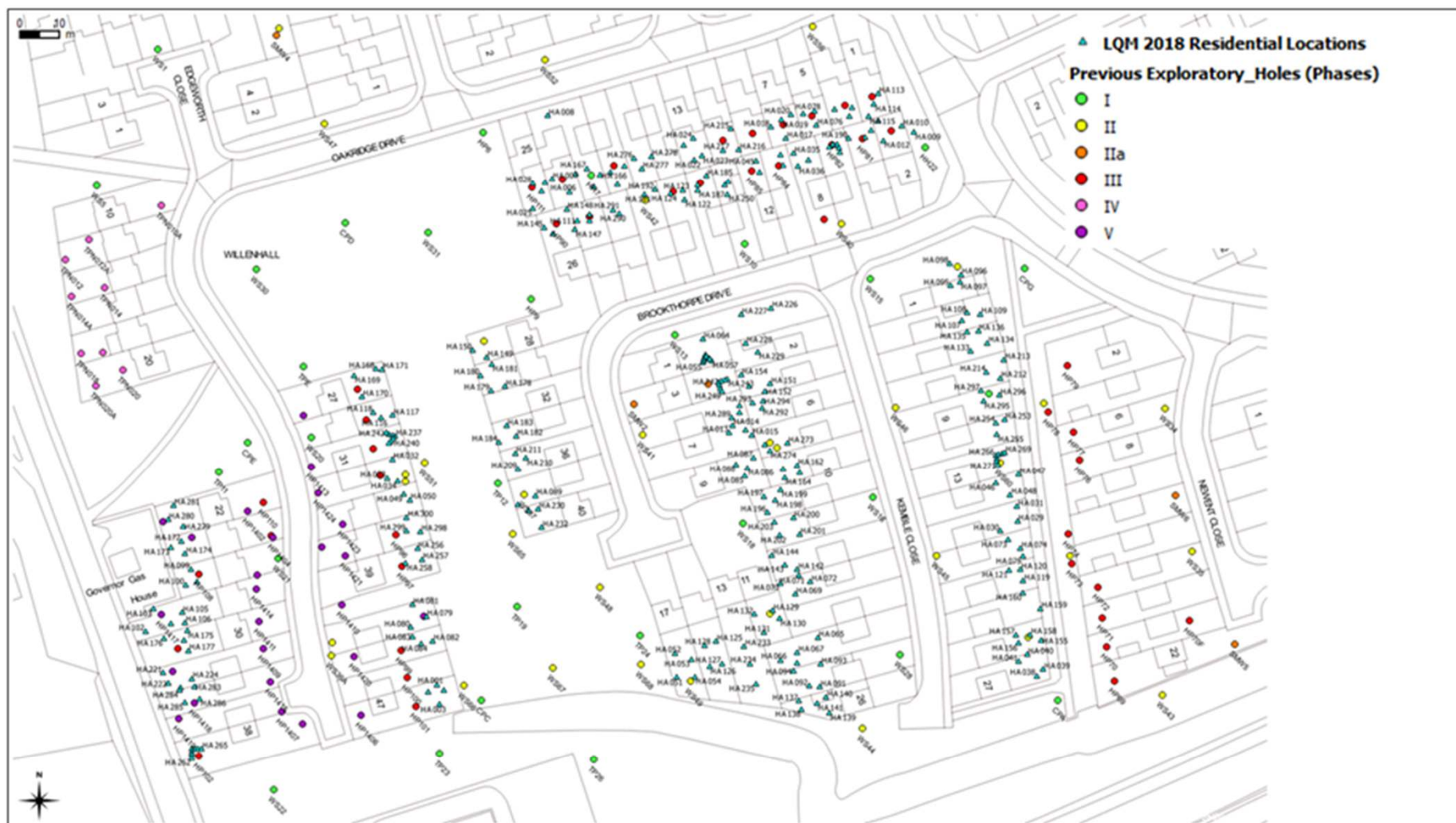


Zone	Area_m2
1	8615.9
2	12104.6
3	4557.2
4	6417.8
5	6862.1
5b	3528.7
6	4079.0
7	13621.2
8	3965.3
9	8590.4


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<b>Client :</b> Walsall Metropolitan Borough Council	<b>Figure Title :</b> <b>AECOM assessment zones and approximate sizes (m<sup>2</sup>) for the Site and historical gasworks structures (1938-61)</b>	<b>Figure No.:</b> <b>18</b>

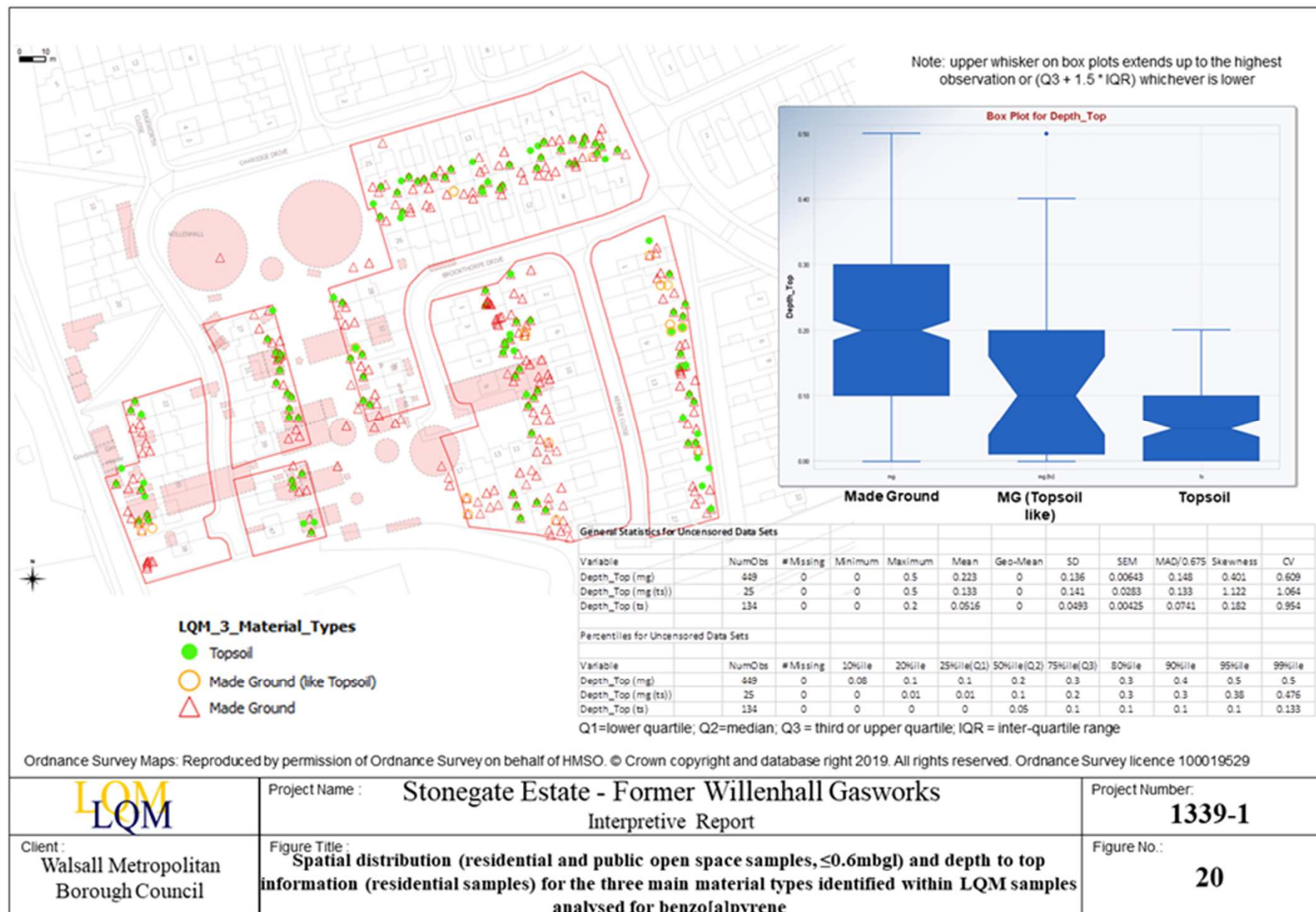
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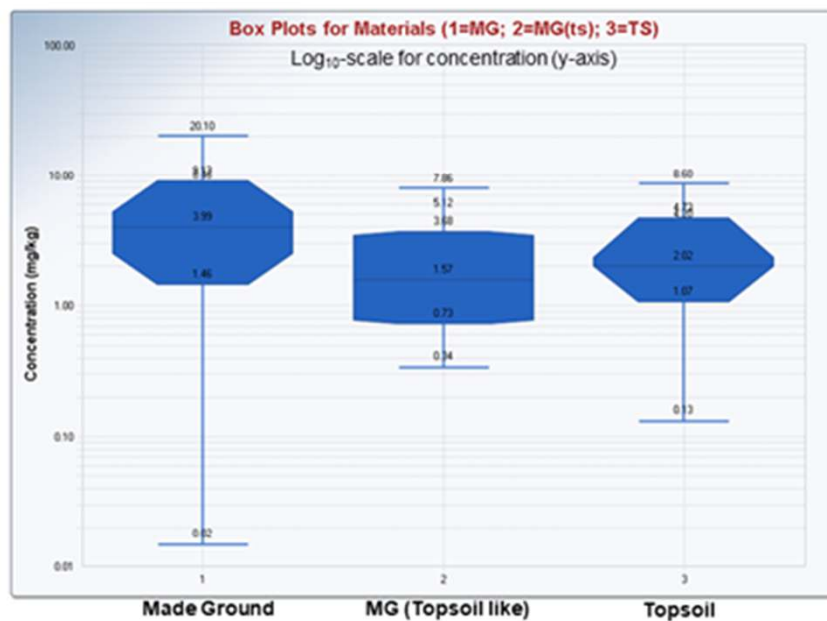
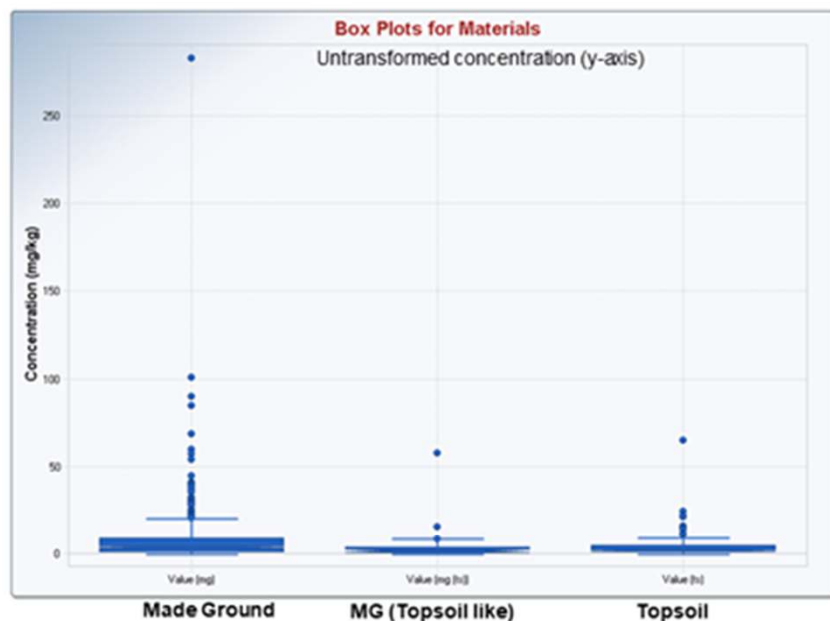
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Client : <b>Walsall Metropolitan Borough Council</b>	Figure Title : <b>Exploratory hole locations within residential rear gardens (LQM 2018 site investigations) and the historic (AECOM) investigation locations</b>	Figure No.: <b>2</b> A3

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**Note:** upper whisker on box plots extends up to the highest observation or (Q3 + 1.5 \* IQR) whichever is lower

General Statistics for Uncensored Data Sets

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Geo-Mean	SD	SEM	MAD/0.675	Skewness	CV
Value (mg)	449	0	0.015	283	8.459	3.347	17.52	0.827	4.615	9.75	2.071
Value (mg (ts))	25	0	0.342	57.8	5.122	1.875	11.53	2.306	1.616	4.32	2.251
Value (ts)	134	0	0.133	65	4.195	2.263	6.832	0.59	1.893	5.946	1.629

Percentiles for Uncensored Data Sets

Variable	NumObs	# Missing	10%ile	20%ile	25%ile (Q1)	50%ile (Q2)	75%ile (Q3)	80%ile	90%ile	95%ile	99%ile
Value (mg)	449	0	0.443	1.106	1.46	3.99	9.13	11.38	19.02	29.52	64.48
Value (mg (ts))	25	0	0.427	0.677	0.728	1.57	3.68	5.272	8.334	14.13	47.65
Value (ts)	134	0	0.603	0.924	1.07	2.015	4.71	6.19	8.219	12.71	23.84



Project Name : **Stonegate Estate - Former Willenhall Gasworks**  
Interpretive Report

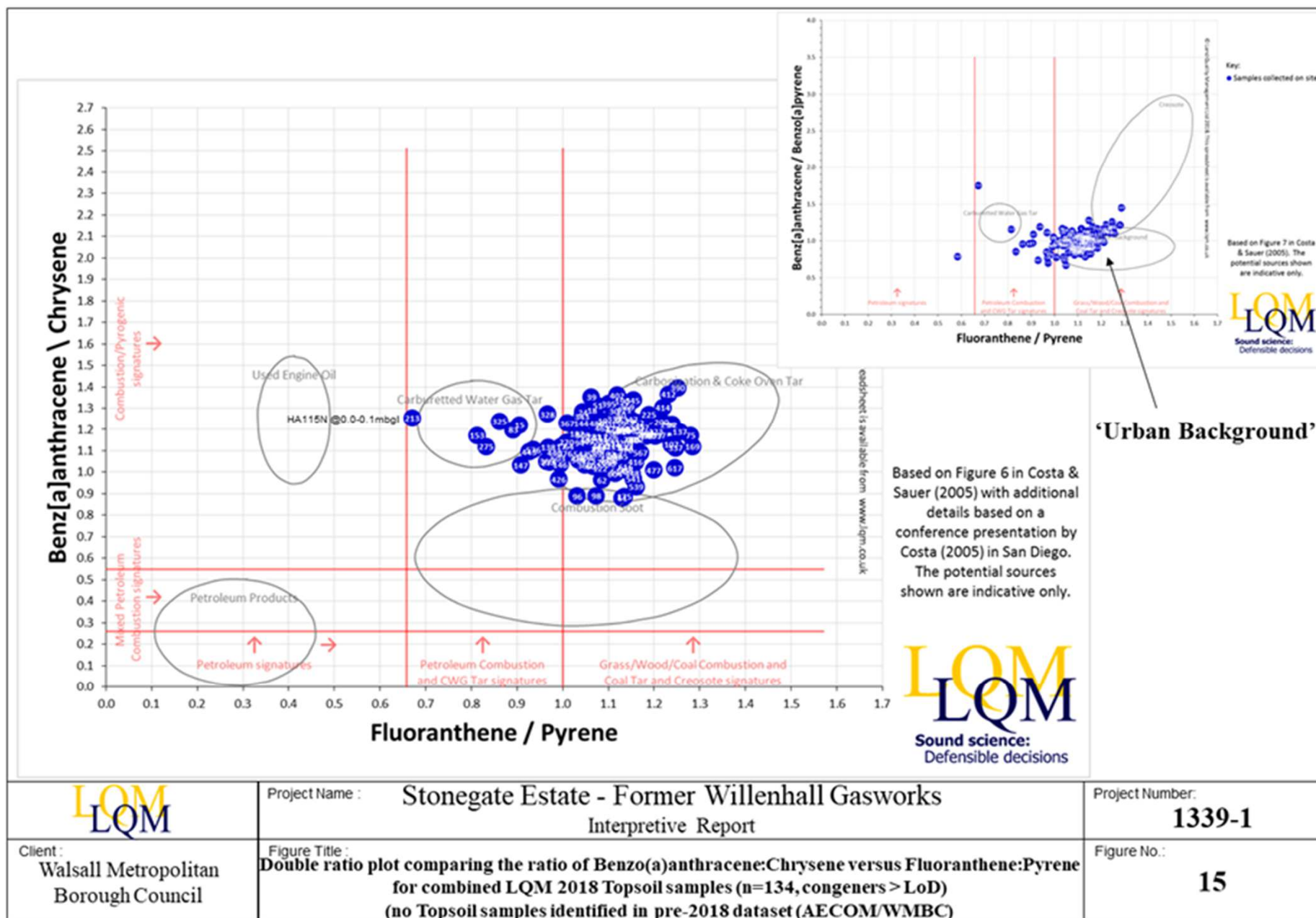
Project Number:  
**1339-1**

Client :  
**Walsall Metropolitan  
Borough Council**

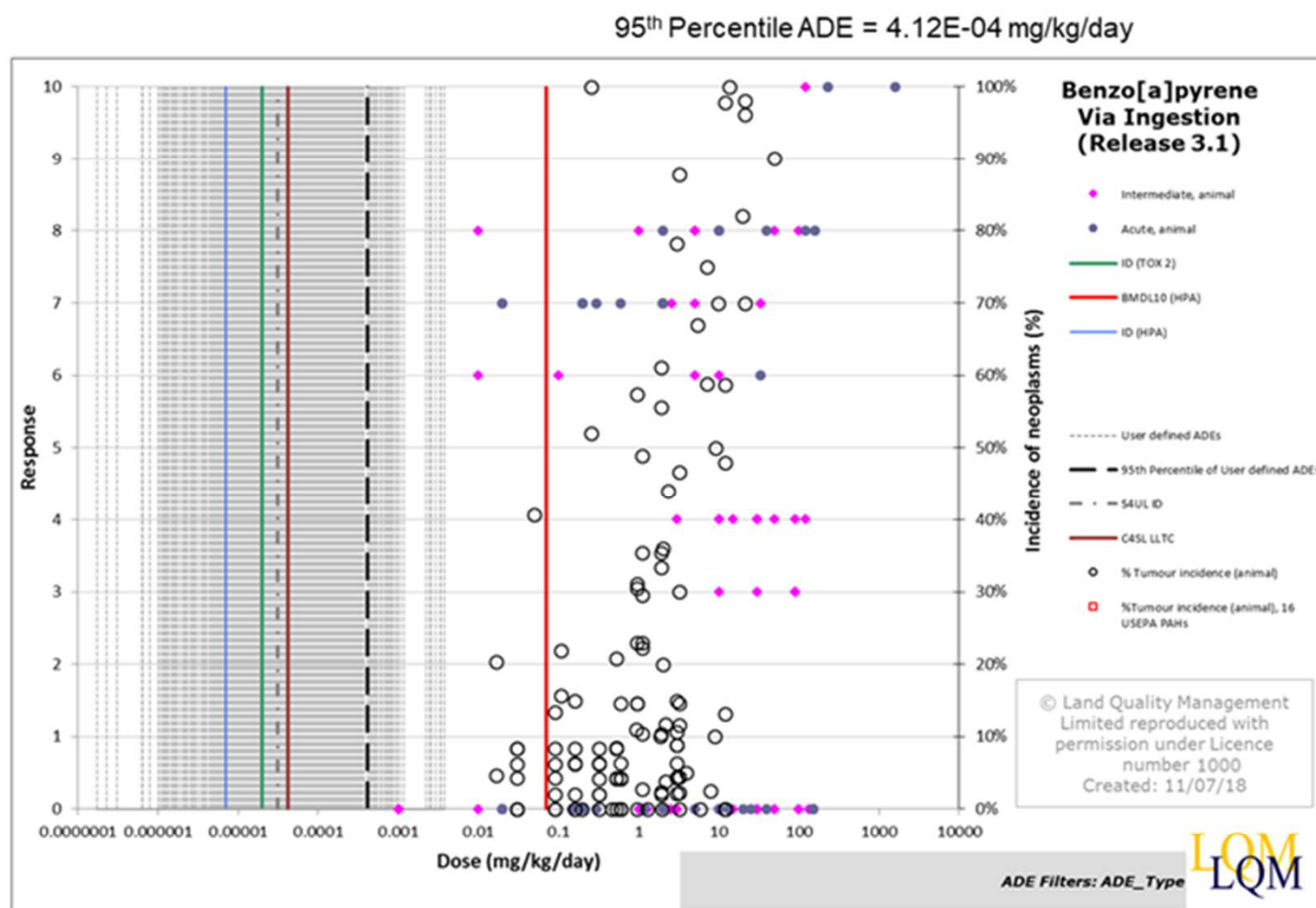
Figure Title :  
**Box plots and summary statistics for benzo[a]pyrene concentrations (mg/kg) for the three main material types identified within the LQM 2018 residential dataset**

Figure No.:  
**21**

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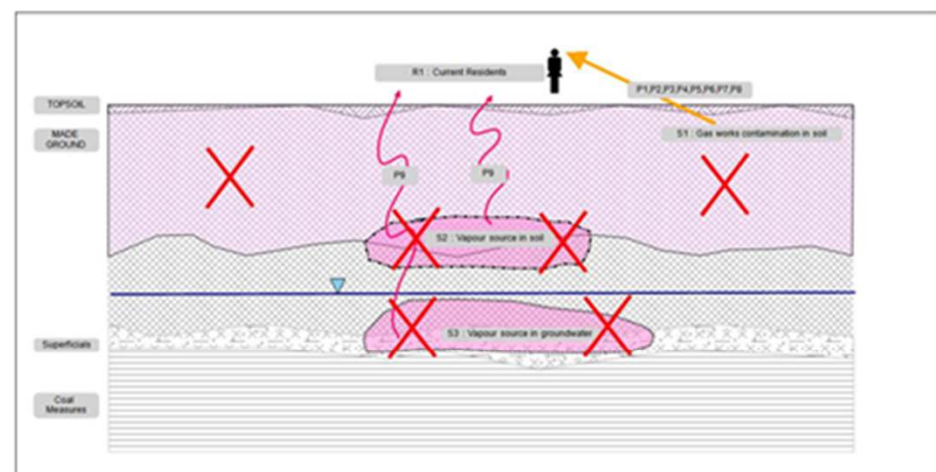
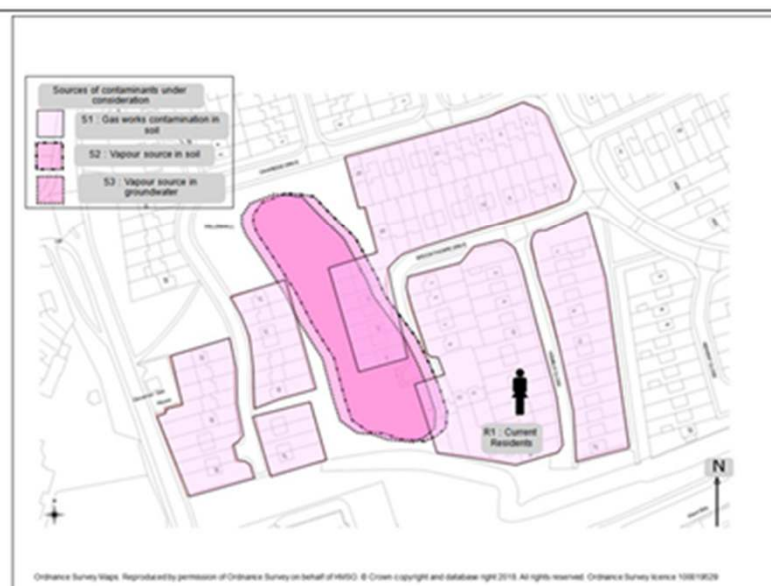
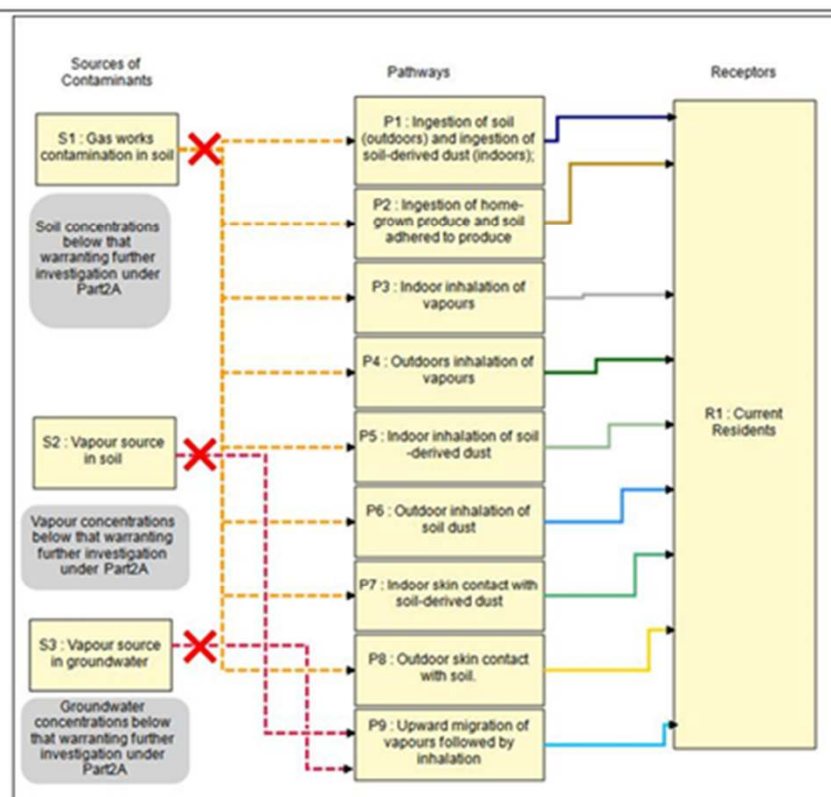
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\* This figure includes 4 samples in the Pre-2018 dataset (TP12 @0.5m, WS32 @0.5m, WS32 @1.2m and WS41 @2.5m) where BaP was reported from the same sample as part of both the SVOC and PAH analyses. So the number of unique samples is n=840 and for these four samples the ADE was estimated using maximum reported BaP concentration for each unique sample

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Client : <b>Walsall Metropolitan Borough Council</b>	Figure Title : <b>Estimated oral ADEs using the combined entire dataset for benzo[a]pyrene (n=840*) plotted onto the Oral exposure Dose Response Roadmap (residential and public open spaces)</b>	Figure No.: <b>40</b>

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	<b>Project Name :</b> Stonegate Estate - Former Willenhall Gasworks Interpretive Report	<b>Project Number:</b> 1339-1
<b>Client :</b> Walsall Metropolitan Borough Council	<b>Figure Title :</b> <b>Final Conceptual Site Model illustrating that contaminant concentrations, despite being associated with industrial use and waste disposal, are not great enough to pose sufficient risk to health for the Site to be considered contaminated land</b>	<b>Figure No.:</b> 83

# Thank you!

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