

Phase 3 Site Investigation Report

**Former Texaco Fuel Station
Bury Old Road
Prestwich, M25 0EY**

31st August 2021



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1 INTRODUCTION

Redstart Northwest Limited (Redstart) has been retained by Cityview Estates Ltd (Client) to undertake an additional assessment of the site to determine whether any remediation is required to be carried out after the site's main underground fuel tanks have been removed. The investigation works are required to assess the existing condition of the ground to discharge a planning condition prior to the construction of a new retail development on the site.

1.1 Scope

The scope of this report is as follows:

- ✚ Visit the site to inspect after the underground fuel tanks had been removed.
- ✚ Review the following ground investigation reports:
 - GeoAssist Ltd: Phase II Contaminated Land Risk Assessment - Texaco Fuel Station Bury Old Road, Prestwich. Date: January 2014. Report Ref: 5594/FSP-CLRA v1.00. Note that this summarises the findings of an earlier Phase 1 Desk Study.
 - GeoAssist Ltd: Ground Investigation - Geotechnical - Texaco Fuel Station, Bury Old Road, Prestwich. Date Jan 2014. Report Ref: 5594/FSP-G
- ✚ Carry out additional ground investigations to determine whether remediation is required.
- ✚ Provide a report on this assessment.

1.2 Proposed Development

The proposed development is a two story steel framed retail building to be constructed on piles. The whole site area will be covered with either the building hard standing. There were formerly four underground fuel storage tanks. A diesel tank under the forecourt and three petrol tanks towards the rear of the site. All of these tanks have been decommissioned and foam filled. The three petrol tanks were been removed in early August 2021. The diesel tank is to remain in the ground because:

- ✚ The new building does not overlie this area.
- ✚ The tank had no history of any leaks or spillages.
- ✚ The tank has been decommissioned foam filled (see certificate in Appendix E).
- ✚ The previous site investigation found no evidence of hydrocarbon contamination adjacent to this tank.

1.3 Site Location

The site is on the western side of Bury Old Road in the suburban area of Prestwich, Bury and is accessed directly off Bury Old Road. The Post Code is M25 0EY. The approximate grid reference for the centre of the site is 382875, 402531 and the total area of the site is approximately 1,300 m² (0.13 ha).

2 NATURAL UNDERLYING GROUND CONSIDERATIONS

2.1 Summary of Site History

The site was a former Texaco filling station which had its tanks decommissioned (foam filled) in 2016. See the Certificate of Tank Decommissioning in Appendix E.

The site then operated as a car washing site with sales of second hand vehicles. In early 2021 this closed and the above ground structures were been demolished in July and August 2021. The three underground petrol tanks were removed in early August 2021. It is reported that the excavations found no hydrocarbons in the tanks or in the ground around the tanks. The resultant void after tank removal was backfilled with imported granular material (recycled 6F2). Surface concrete and former foundation have been removed below the footprint of the proposed building.

2.2 Current Site Description

A site inspection and walk over was completed by an experienced geo-environmental engineer on 11th August 2021. A second visit was also made by Redstart on 17th August 2021 when trial pitting was carried out. Photographs of the site taken on these two visits are presented in Appendix A. Some observations are presented below:

- ✘ The site is securely fenced to the front onto Bury Old Road with paladin fencing and gates.
- ✘ The siteworks was a tidy operation with good control of earthworks, materials, materials for recycling and potential wastes.
- ✘ During the first visit the three below ground petrol tanks had been removed and were on the surface. These were foam filled and there was no visual or olfactory evidence of any hydrocarbons.
- ✘ The void from tank removal was about 90% backfilled on 11th August. Additional 6F2 was being imported, this was inspected and was visually suitable material free of unsuitable materials such as wood, plastic, ACMs etc.
- ✘ No invasive species were noted.
- ✘ No asbestos containing materials observed.
- ✘ No area of potential hydrocarbon spillages observed.

2.3 Previous Site Investigation Reports by GeoAssist Ltd. From 2016

The findings of the two reports listed in Section 1 are summarise below:

- ✘ **Site Condition in 2016:** In use as an active vehicle refuelling station with associated facilities such as carwash and shop. The vast majority of the site was covered by concrete hardstanding with associated positive drainage network flowing into interceptor separators. The concrete hardstanding was noted to be in a reasonable condition at the time of the fieldwork and the drainage free from detritus and free flowing. Most of the site was covered in concrete with limited areas of vegetation around the perimeter of the site in the western end.
- ✘ **Geology:** Made Ground over drift deposits of Glaciaofluvial Sand and Gravel over Glacial Till (Clay). The thickness of the superficial deposits is not readily discernible from the geological maps or on-lane data but this is likely to be encountered at a depth of more than

30 m. The underlying solid geology is shown as being Collyhurst Sandstone of the Permo-Triassic period and overlies Coal Measures. No faults are shown as passing directly beneath the site

-  **Mineworkings:** The Coal Mining Search report carried as part of the Phase I report confirmed that the risk to the development from coal workings is low.
-  **Fieldwork:** eight window sample holes (WS1 to WS8) were put down around the site. Five went to the proposed depth (WS1 to WS3, WS5 & WS8) with three being terminated (WS4, WS6 & WS7) on services or obstructions. SPT tests were carried out and samples taken. Upon completion of the fieldwork exploratory holes WS1, WS3 and WS5 were converted to gas/groundwater monitoring standpipes. A PID was used on site to assess the potential for hydrocarbons to be present but no hydrocarbons were found. The Locations of these exploratory holes is presented in Figure 1:

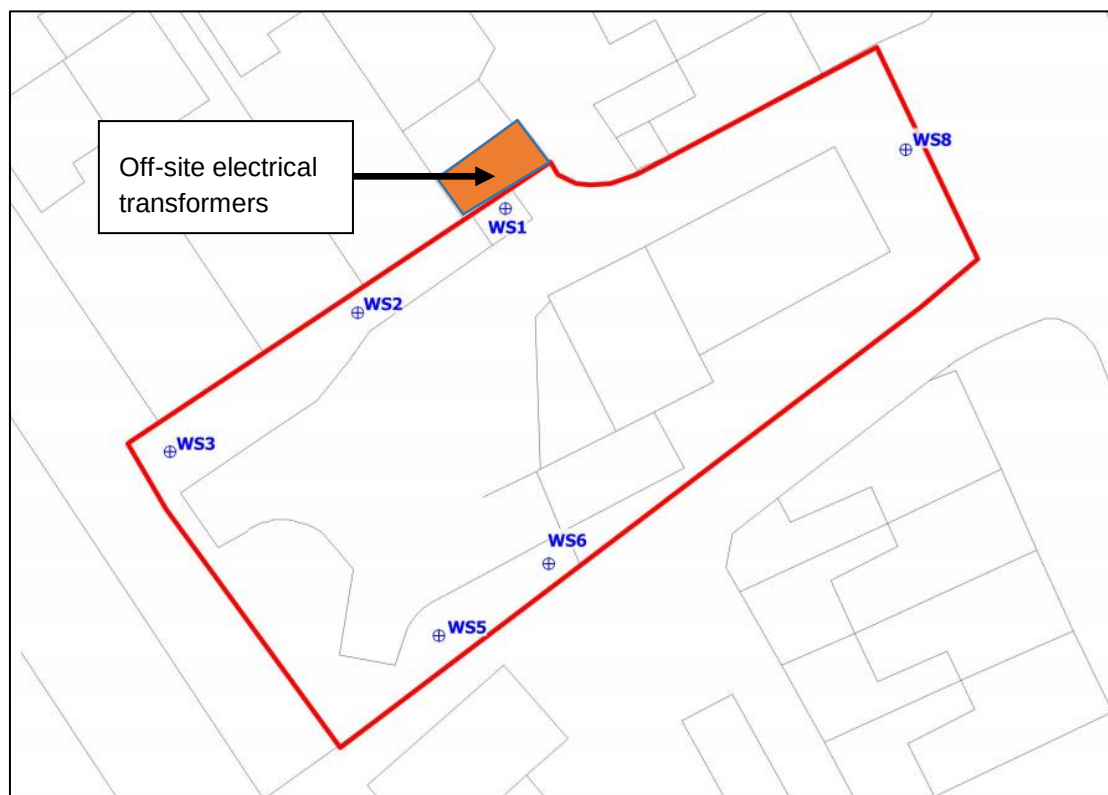


Figure 1: Exploratory Hole Location Plan of Works Carried Out by GeoAssist.

-  **Geotechnical Laboratory Testing:** This comprised mainly classification tests and for pH/sulphate.
-  **Chemical Laboratory Testing:** Five soil samples were tested for a range of potential contaminants including heavy metals, PAHs, petroleum hydrocarbons and PCBs.
-  **Subsurface Stratigraphy:** The subsoil profile obtained from the exploratory holes consists of grass/topsoil and concrete to depths between 0.20m to 0.90m underlain by Made Ground to depths ranging from 0.90m and 2.80m and overlying sand with silt/clay. The Made Ground consisted mainly of clay, sand and gravel with brick and concrete fragments and cinders in varying proportions. The Made Ground was variable in material constituents and

ranges from very loose to dense in state of compaction. Exploratory holes WS1, WS2, WS3 and WS8 penetrated a sandy Silt/Clay stratum at depths ranging from 1.30m to 2.80m. This sand Silt/Clay contained organic inclusions varied from 0.60m to 1.50m in thickness. All the exploratory holes completed to full depth were terminated in silty Sand (Glaciofluvial Deposits) and extended to at least a depth of 6.00m.

-  **Groundwater:** Monitoring of the standpipe installations in the boreholes confirmed that the depth to groundwater has varied between 4.20m and 4.50m across the site.
-  **Ground Gas:** An interim gas risk assessment has been produced for the site and is based on the results of 3 monitoring rounds based upon the data obtained indicate that the proposed area for the new construction is defined as a CIRIA C665 Characteristic Situation 1 (CS1) very low risk so no special precautions are required for the development. Further gas monitoring was proposed but Redstart do not have a copy of this additional monitoring.
-  **Chemical Contamination:** No contaminants were identified at levels exceeding the GeoAssist Limited GACs or SGVs for a commercial end use from the investigation. The assessment did not identify any potential risks to end users of the site from elevated levels of anthropogenic contamination within the ground on the site.
-  **Underground Fuel Tanks:** The investigation identified 3 underground fuel storage tanks know to be fitted with the latest highly accurate electronic measuring gauges which are monitored from the kiosk. A printout of the fuel tank net balances were been provided. This system enables the operator to immediately detect losses from the tanks via leakage thereby saving the operator both environmental damage costs and fuel loss costs. No fuel losses have been recorded. The tanks are located to the rear of the kiosk in the centre of the site and area easily identified by labels on manhole covers. The report stated that *"the fuel tanks lie directly below the foundation line of the proposed new building and it is anticipated that the fuel tanks and associated infrastructure will need to be certified safe and removed from site."*
-  **Geotechnical Report Conclusions:** These were principally for the tanks and other below ground obstructions to be removed, the new building to have piled foundations and concrete mix design to be sulphate class DS-2 and according to ACEC Class AC-2.
-  **Geoenvironmental Report Conclusions:**
 - *"The subsoils on this site present a low risk to future site users when assessed in compliance with the current UK methodology.*
 - *The controlled waters (groundwater) beneath the site are unlikely to become impacted by the passage of water through the soils on the site.*
 - *The site is defined as a Characteristic Situation 1 in accordance with CIRIA C665 and significant quantities of ground gases and or flows have not been identified during the monitoring period.*
 - *Photo Ionisation Detection has not identified any high levels of Volatile Organic Compounds from the ground across the site.*
 - *The site is highly unlikely to be defined as contaminated land within the context of Part IIA.*
 - *The site is fit for the proposed commercial use.*

- *The site, in its present condition, does not represent a significant risk to the environment and is unlikely to become an environmental liability in the future provided that the fuel tanks and associated infrastructure are certified safe and removed from site.*
- *Supplementary Recommendations: It is recommended a watching brief by a suitably qualified person be maintained during any subsequent site preparation works. If during any site works suspected ground contamination, not previously identified, is found to be present on the site then an appropriate, suitably Qualified Person should inspect the site and prepare a report outlining what measures, if any, are required to remediate the land. The local planning authority should be informed."*

3 INITIAL ASSESSMENT OF SITE BY REDSTART

The GeoAssist assessment of the site indicates that there is no significant contamination present at the site. The assessment of the data indicated that there were potential deficiencies:

- ❏ The site investigation was in early 2014 prior to closure/decommissioning.
- ❏ The investigation is over seven years old so there could have been unreported spillages or pollution could have occurred during this period.
- ❏ The locations of the exploratory holes were around the perimeter and there were none immediately adjacent to the main petrol tank farm which is the highest risk area on the site. WS8 was adjacent to the diesel tank.
- ❏ The site investigation report did not specifically mention the off-site electrical transformers adjacent to the development. The location of these has been added to Figure 1 by Redstart. These are a potential off-site source of PCBs although GeoAssist did test for PCBs in the adjacent location WS1. This had low PCB concentrations with a total of 7 PCBs being 0.012 mg/kg.
- ❏ With only three rounds of ground gas monitoring available to Redstart and given the elapsed time since monitoring more information would be useful to confirm the ground gas situation.

Overall it was assessed that given that the tanks had been removed and no hydrocarbons had been reported a supplementary Phase 3 Site Investigation should be carried out to investigate the area around the three removed petrol tanks via four machine excavated trial pits (TP1 to TP4). An additional trial pit (TP5) to be carried out adjacent to the transformers given that low PCB concentrations had previously been measured in this vicinity. A PID to be used to assess the presence of VOCs on site via headspace measurement.

Regarding ground gas monitoring, a single round of ground gas monitoring in any remaining functional wells would be appropriate to confirm that there has been no significant changes and this would also help identify if there had been any significant hydrocarbon spillages since 2014. wells would also be carried out on any functional wells.

The geo-environmental risks would then be reassessed to determine whether any further remediation would be required.

4 SITE INVESTIGATION WORKS

4.1 Scope

At the time of the investigation the majority of the proposed re-development area was covered by vegetation or naturally seeded semi and mature trees. In order to carry out the investigation works trial pits were excavated along the footprint of the proposed new track to provide relevant information. In order to carry out the intrusive investigation works with the least disruption to site activities, Redstart proposed using a 21 tonne excavator.

Site works comprised:

- ✚ Principal geologist to supervise the works, take samples and describe the ground conditions;
- ✚ Four machine excavated trial pits, TP1 to TP4 around former petrol tanks to be taken into the natural ground, TP5 adjacent to the sub-station just taken to a depth of 1.0m;
- ✚ Carry out Headspace of recovered samples & ground gas monitoring;
- ✚ Recording of investigation locations
- ✚ Chemical testing; and
- ✚ Production of interpretative investigation report.

The investigation location plan is in Figure 2.

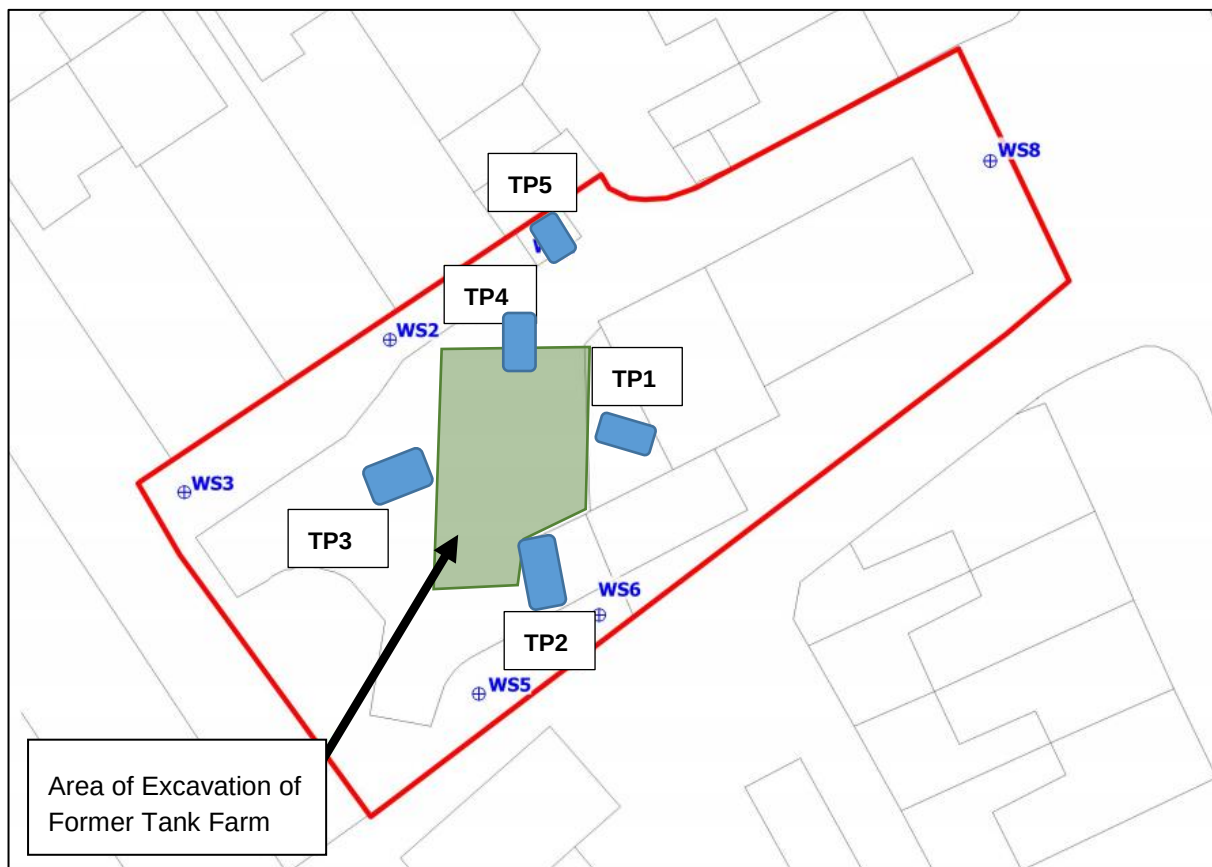


Figure 2: Exploratory Hole Location Plan

The intrusive investigative works were carried out in general accordance with the relevant British Standards, namely BS5930:2015+A1:2020 – Code of practice for site investigations, and BS10175:2011+A2:2017 – Investigation of potentially contaminated sites – Codes of Practice.

4.2 Trial Pit Formation

The five trial pits (TP1 to TP5) were excavated on 20th August 2021. The pits were machine excavated using a 22T tracked excavator already on site carrying out the demolition, tank removal and groundworks.

Trial pits TP1 to TP4 were carried out in areas where the hard standing had already been removed carried out and advanced to depth of between 1.805mbgl and 4.20mbgl. These holes were all terminated in the natural deposits.

TP5 was excavated through 0.20m of concrete to a maximum depth of 1.10 m terminating in Made Ground.

All trial pits were backfilled with arisngs and made good.

PID headspace testing only had evidence of possible VOCs in the sample from TP4 at 1.80m which had a PID reading slightly above the background.

Trial Pit records including photographs are presented in Appendix B.

4.3 Environmental Sampling

The sampling strategy for TP1 to TP4 was to sample both the Made Ground and natural soils at each location from a range of depths. In TP5 just sample the Made Ground for PCB and TPH/VOC analysis.

The samples were collected by a suitably qualified engineer using a stainless steel trowel and disposable gloves. The samples were stored in containers specific to the intended analysis (i.e. both plastic tubs and glass jars).

There was no olfactory evidence of any significant contamination noted during the collection of the samples. There was some visual evidence of potential contamination with asphalt/tarmac and ash being present in the Made Ground.

4.4 Chemical Testing

Six samples of Made Ground were tested a broad suite of analysis which included the following:

-  Aqua regia soluble metals: As, Cd, Cr (total), Cu, Hg, Ni, Pb, Se and Zn
-  Petroleum Hydrocarbons: Total Petroleum Hydrocarbons using the Criteria Working Group Approach (TPH-CWG),
-  VOCs
-  Speciated (16USEPA) Poly Aromatic Hydrocarbons (PAHs);
-  Soil Organic Matter (SOM);
-  Water soluble sulphate; and
-  pH.

Three of the above samples were also tested for asbestos Visual Fibre Screen but no fibres were detected so no further Asbestos quantification was required on these samples.

Seven further samples were tested for TPH CWG & VOCs with one sample from TP5 tested for PCBs.

The results of the Chemical analysis are presented in Appendix C.

4.5 Ground/Perched Water Sampling

No ground or perched water was encountered within the trial pits during the works and the potential risk to controlled waters from the proposed track construction has been assessed as low as such no chemical sampling or assessment of the groundwater was undertaken during this commission.

4.6 Ground Gas

A single round of ground gas monitoring was carried out with measurements in wells WS1, WS3 and WS5. A further monitoring well close to WS8 (4 m south of the location of WS8) was also located and this was also monitored. For ease of reference, it is referred to as WS8 in this report. The monitoring results are presented below:

Table 1: Ground Gas Monitoring on 20/08/21

Location	Water Level (m)	Depth (m)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)	PID (ppm)	Flow (l/hr)	CH ₄ GSV (l/hr)	CO ₂ GSV (l/hr)
WS1	Dry	1.42	<0.1	1.2	19.1	<1	<1	0.11	<0.1	0.0001	0.0012
WS3	4.12	5.00	0.1	1.4	18.8	<1	<1	0.18	0.3	0.0003	0.0014
WS5	4.34	5.00	0.1	4.1	14.9	<1	<1	0.30	0.2	0.0002	0.0041
WS8	3.78	4.50	<0.1	1.5	19.0	<1	<1	0.21	<0.1	0.0001	0.0015
Weather was 16°C, cloudy, ambient pressure 1015mb											

5 GROUND CONDITIONS

5.1 Summary of Ground Conditions Encountered

The ground conditions identified during this field investigation generally comprised Made Ground with a thickness ranging from 1.00 to 2.10 m over natural silty fine Sand. In TP1 to TP4 there was no surface hard standing because that had previously been removed. In TP5 there was concrete hard standing. The Made Ground was generally similar to that encountered by GeoAssist. It was generally a gravel clayey very sandy Gravel but in places became a gravelly Sand. The majority of the Made Ground was composed of brick and concrete but there was ash, clinker, wood, asphalt and other anthropogenic material. TP1 had the largest proportion of wood, metal, plastic etc.

5.2 Groundwater

No groundwater or perched water was observed during the investigation. No chemical assessment of the groundwater/perched water quality was undertaken at this stage.

5.3 Obstructions

A buried brick wall/foundation was encountered in the eastern end of TP1.

5.4 Visual / Olfactory Evidence of Contamination

There was no olfactory evidence of any significant contamination noted during the collection of the samples. There was some visual evidence of potential contamination with asphalt/tarmac and ash being present in the Made Ground.

6 CONTAMINATION ASSESSMENT

This intrusive investigation provides an assessment of the central area of the site adjacent to the former petrol tank farm and provides the information to make an assessment of the potential risks to future users of the site.

6.1 GQRA Information

The Generic Qualitative Risk Assessment (GQRA) comprises the comparison of laboratory measured concentrations of contaminants with Generic Assessment Criteria (GAC). The GAC used for the assessment of soil concentrations comprise Soil Guideline Values (SGVs) and values that have been derived using the Contaminated Land Exposure Assessment (CLEA) model adopting the appropriate assumptions and input parameters provided by the Environment Agency.

In deriving the GAC for use on Brownfield sites we have assumed a "Soil" with 2.5 % Soil Organic Matter (SOM) which is appropriate for the Made Ground on site based on TOC results which ranged from 1.5% to 4.5% with an average of 2.5%. It is generally accepted that assessment criteria for metals are not sensitive to changes in soil organic content (SOM).

The GQRA has been undertaken on the basis that the future site use falls under the 'Industrial / Commercial' S4UL and C4SL assessment criteria, land-use scenarios. It is assumed that the existing ground will be retained on site beneath the proposed track footprint.

6.2 Guidelines for Assessing Human Health Criteria

In 2012 The Department for Environment, Food and Rural Affairs (DEFRA) commissioned the SP1010 project to develop and test methodology to derive Category 4 Screening Levels (C4SL). The SP1010 Report was published in 2014. The SP1010 report included methodology and framework for six land uses and a limited number of contaminants (Arsenic, Cadmium, Chromium VI, Lead, Benzo(a)Pyrene & Benzene) along with policy statements. C4SLs are intended to be used as generic screening values which are protective of human health for six various land-uses. Additional C4SLs are being developed in stages with the first of which being released in May 2021 for TCE, PCE and Vinyl Chloride.

Category 4 Screening Levels (C4SLs) are described as being more pragmatic than previous screening criteria and represent concentrations in soil that present an 'acceptable' level of risk within the context of Part 2A of the Environmental Protection Act. The C4SLs are included as suitable generic screening criteria within the EA LCRM (2021) guidance. The LCRM guidance applies to both Part 2A assessments and assessments made under the planning regime, LCRM states that *'Where an SGV and C4SL are available for the same contaminant, we expect you to use the C4SL'*. The available C4SLs have therefore been adopted as primary assessment criteria in this report.

The National Planning Policy Framework (February 2019) states that 'after development, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990'. Therefore by inference, the C4SLs are appropriate for use in the planning context.

For all other contaminants we have used the Land Quality Management/Chartered Institute Environmental Health values published within *'The LQM/CIEH S4ULs for Human Health Risk Assessment'* 2015. In brief, the document provides updated assessment criteria which have been

derived in accordance with UK legislation, national as well as EA policy and using a modified version of the CLEA software and available guidance.

The Sutable 4 Use Levels (S4ULs) screening criteria are intended to provide a complete and updated replacement to the previous LQM/CIEH GAC of 2009. As such they are considered appropriate for use in this assessment for common contaminants not covered by C4SLs and/or for organic contaminants. Further details are included in Table 6 below:

Table 1 - Assessment Criteria Summary

Assessment Criteria	Land Uses	Details	Contaminants Available
Department for Environment, Food and Rural Affairs Category 4 Screening Levels (DEFRA C4SLs, CL:AIRE, 2014 & 2021)	Residential with plant uptake; Residential without plant uptake; Allotments; Commercial; POS1 – (POS Near Residential Housing) and POS2 – (Public Park)	Derived using modified CLEA model	Arsenic Cadmium Chromium VI Lead Benzo(a)Pyrene Benzene Vinyl Chloride Tetrachloroethene (PCE) Trichloroethene (TCE)
Land Quality Management / Chartered Institute of Environmental Health Sutable 4 Use Levels (LQM/CIEH S4ULs)	Residential with plant uptake; Residential without plant uptake; Allotments; Industrial/ commercial; Public Open Space (landscaping); and Public Open Space (parks)	Derived in accordance with UK legislation, national as well as Environment Agency policy and using a modified version of the Environment Agency CLEA software. Principal Receptor: 0-6 year old female child. Soil: Sandy loam Soil Organic Content: 1.0%, 2.5% & 6.0%	Beryllium (Be), Boron (B), Chromium (CrIII), Copper (Cu), Elemental Mercury (Hg), Methyl Mercury (Hg+) Inorganic Mercury (Hg2+), Molybdenum (Mo), Nickel (Ni), Selenium (Se), Vanadium (V) and Zinc (Zn)
LQM/CIEH S4ULs	Residential with plant uptake; Residential without plant uptake; Allotments; Industrial/ commercial; Public Open Space (landscaping); and Public Open Space (parks)	Derived in accordance with UK legislation, national as well as Environment Agency policy and using a modified version of the Environment Agency CLEA software	Polyaromatic Hydrocarbons* (PAHs), Speciated/banded Petroleum Hydrocarbons (TPHCWG), BTEX, Phenols, Explosives, Pesticides
EIC/AGS/CL:AIRE and LQM/CIEH GACs or LQM/CIEH S4ULs	Residential with plant uptake Residential without plant uptake Allotments Industrial/ commercial	Derived using the Environment Agency's CLEA software. Principal Receptor: 0-6 year old female child. Soil: Sandy loam Soil Organic Content: 1.0%, 2.5% & 6.0%	volatile organic compounds (VOCs); and Semi-Volatile Organic Compounds (SVOCs)

The S4ULs, C4SLs, SGVs and GACs are intended for use as a screening tool for the generic quantitative assessment of risk to human health from contaminated land and represent “trigger values” that, if exceeded, could indicate a possibility of significant harm. However, these criteria do not represent the threshold at which there is a significant possibility of significant harm; this determination will normally require further investigation and evaluation of risk to human health and groundwater.

To ensure relevance in the risk assessment, Redstart has adopted the SGVs and GACs derived (as detailed above) for a generic ‘Commercial / Industrial’ end-use scenario.

6.3 Analysis of Chemical Results

The soils were submitted for chemical analysis testing at the independent MCERTS/UKAS accredited laboratory The Environmental Laboratory Ltd (ELAB). The results of the analysis were compared to the industry standard generic assessment criteria for the intended site end land use as described above, full chemical analysis results are presented in Appendix D.

All except one result are lower than the commercial land use assessment criteria except for one result:

TP3 0.90 m: Dibenzo(a,h)anthracene of 6.7 mg/kg (assessment criteria of 3.6 mg/kg)

Also note that the VOC results are not summarised in Appendix D because almost all of these results on the thirteen samples were less than the detection limits for all 54 VOC compounds. The exception to this was:

TP4 at 1.80 m:	Toluene	0.0371 mg/kg
	M+P-xylene	0.0218 mg/kg
	O-xylene	0.0144 mg/kg

These concentrations are less than the commercial land use assessment criteria for these compounds.

The concentrations of PCBs in the sample adjacent to the sub-station were less than the detection limit so no mitigation works are required due to PCBs.

Note that no asbestos fibres were present in the samples tested.

6.4 Discussion of Results

In general the results of the analysis on the samples tested were assessed to contain contaminants at concentrations below the standard generic assessment criteria for a ‘Commercial / Industrial’ end-use scenario. A single sample at a depth of 0.90 m has a single PAH compound higher than the assessment criteria. It is assessed that this does not pose a risk to human health because it has a very low volatility and the principal pathway would be inhalation of dust. Because this development will have all the Made Ground covered with hard standing there will be no pathway for inhalation of dust or pathways such as through skin contact etc. Therefore no remediation is required to mitigate this theoretical risk to end users.

There is no evidence of significant presence of petroleum or diesel range hydrocarbons. Note that the highest TPH (C₅ to C₄₀) concentration was only 412 mg/kg and most of the hydrocarbons are >C₂₁. There are no C₅ to C₁₀ hydrocarbons present in the 13 samples tested. Therefore this confirms that there is no significant risk for the development from

Given the nature of the ground, the measured concentrations and proposed development it is assessed that there is a negligible risk to human health from potential contaminants in soils to future site users during and following re-development.

6.5 Controlled Waters Risk Assessment

No significant source of contamination, potential pathway or viable controlled waters receptor has been identified at the site. It is considered that there is a negligible risk with regards to controlled waters.

6.6 Ground Gas Risk Assessment

GeoAssist's conclusion in terms of risk from ground gases was:

- *The site is defined as a Characteristic Situation 1 in accordance with CIRIA C665 and significant quantities of ground gases and or flows have not been identified during the monitoring period.*

The results of the additional round of ground gas monitoring by Redstart confirms this and no specific precautions are required due to ground gases..

6.7 Summary of Risk Assessments

No significant source of contamination has been encountered so there is a negligible risk with regards to human health, controlled waters and the wider environment. Therefore no remediation works are required.

In terms of permanent ground gases no mitigation is required.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusion

No significant source of contamination has been encountered so there is a negligible risk with regards to human health, controlled waters and the wider environment. Therefore no remediation works are required.

In terms of permanent ground gases no mitigation is required (Characteristic Situation 1 ground gas conditions apply for this site).

No remediation works are required due to chemical concentrations or ground gas concentrations.

7.2 Previously Unidentified Contamination

During further groundworks, if previously unrecorded areas of contamination be identified during the re-development works Redstart should be contacted to assess the impact and determine, along with the local authority, the required mitigation requirements.

7.3 Large sub surface structures/obstructions/Voids

A buried wall/foundation was present at the eastern end of TP1. Other man-made obstructions may be present below the ground and these will require removal prior to piling and foundation construction.

7.4 Health, Safety & Environment

Consideration should be given to the level of PPE that should be provided to future site operatives carrying out groundworks. All work on site should be conducted in accordance with appropriate Health and Safety guidance, with particular reference to HSG66 (HSE, 1991). In particular there should be additional precautions due to the PAH concentration in TP3 with due regard should be given to potential detrimental effects of dust and dermal contact to site operatives.

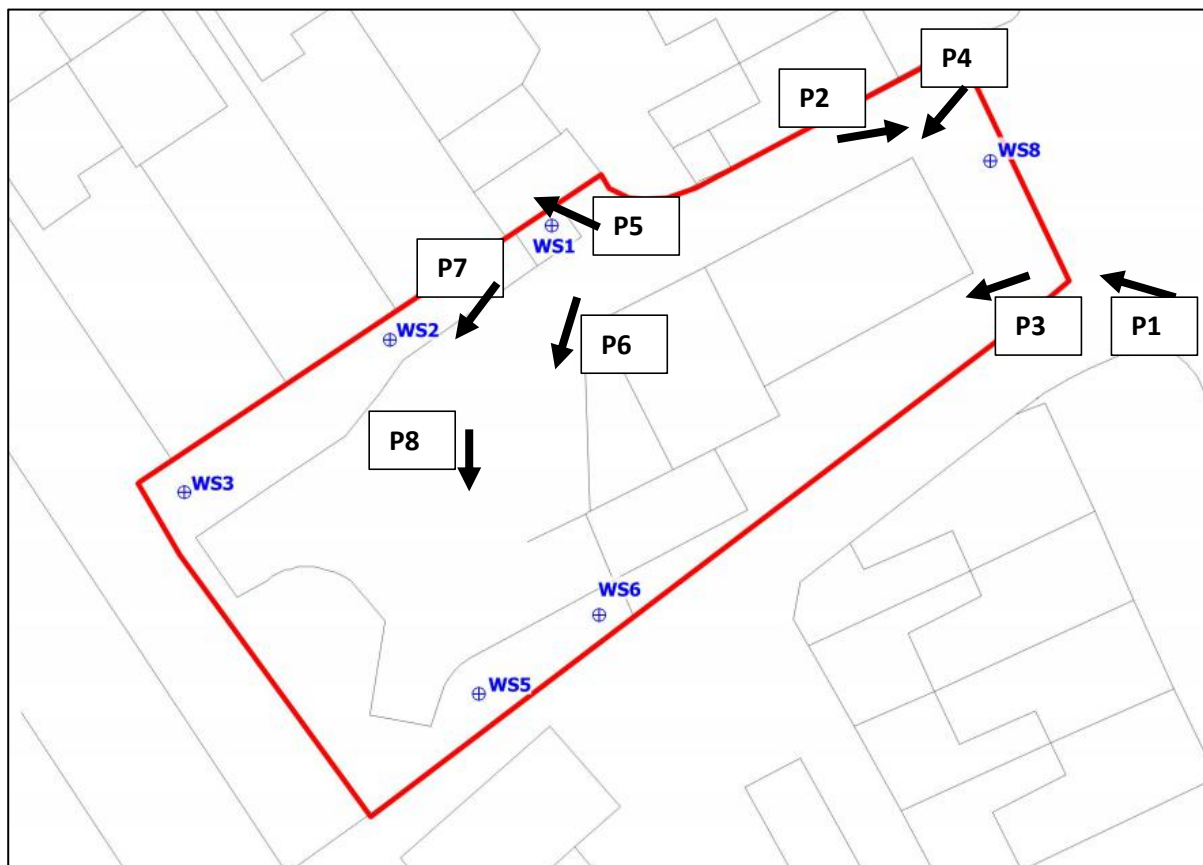
Appendix A

Photographs of the Site August 2021

APPENDIX 1

PHOTOGRAPHS

Photograph Location - 11th August 2021



Photographs of 11/08/21



Photograph 1 – Site Entrance



Photograph 2 – Site Exit



Photograph 3 – South Westerly View of North Western Boundary from Site Exit



Photograph 4 – South Westerly View of South Eastern Boundary from Site Entrance



Photograph 5 – Off-Site Transformers



Photograph 6 – Imported 6F2 Used to Backfill Tank Excavations

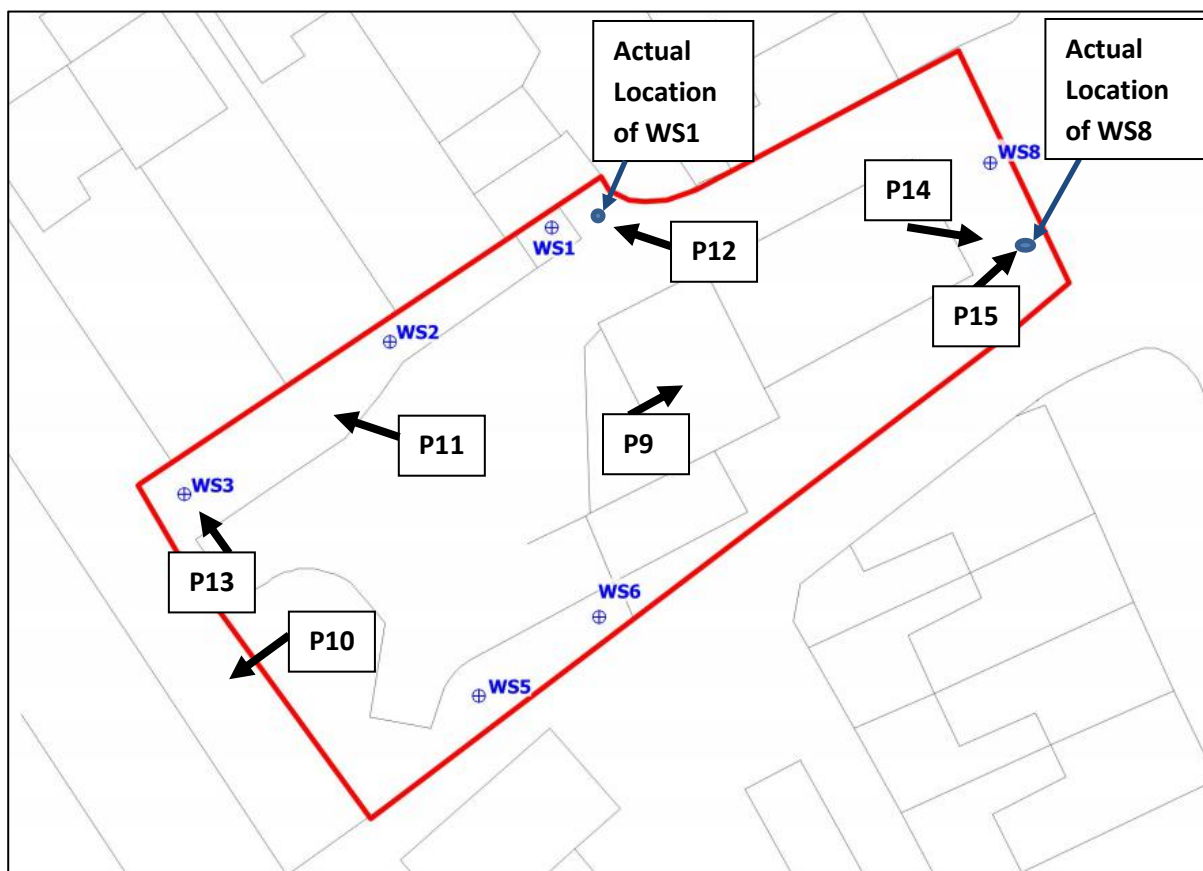


Photograph 7 – Concrete Hardstanding to Be Taken Off Site for Recycling



Photograph 8 – Removed Tanks Waiting for Transport off Site

Photograph Location - 20th August 2021



Photograph 9 – General Photo of North East Part Of Site



Photograph 10 – Cleared General Waste, Wood, Plastic etc temporarily stored on adjacent site (this site also owned by the developer) prior to disposal off-site



Photograph 11 – Excavated Concrete Hardstanding Stockpiled Prior to be Taken Off Site for Recycling



Photograph 12 – Off-Site Transformers

Well WS1



Photograph 13 – WS3



Photograph 14 – Well WS8



Photograph 15 – Well WS8 – Close-up

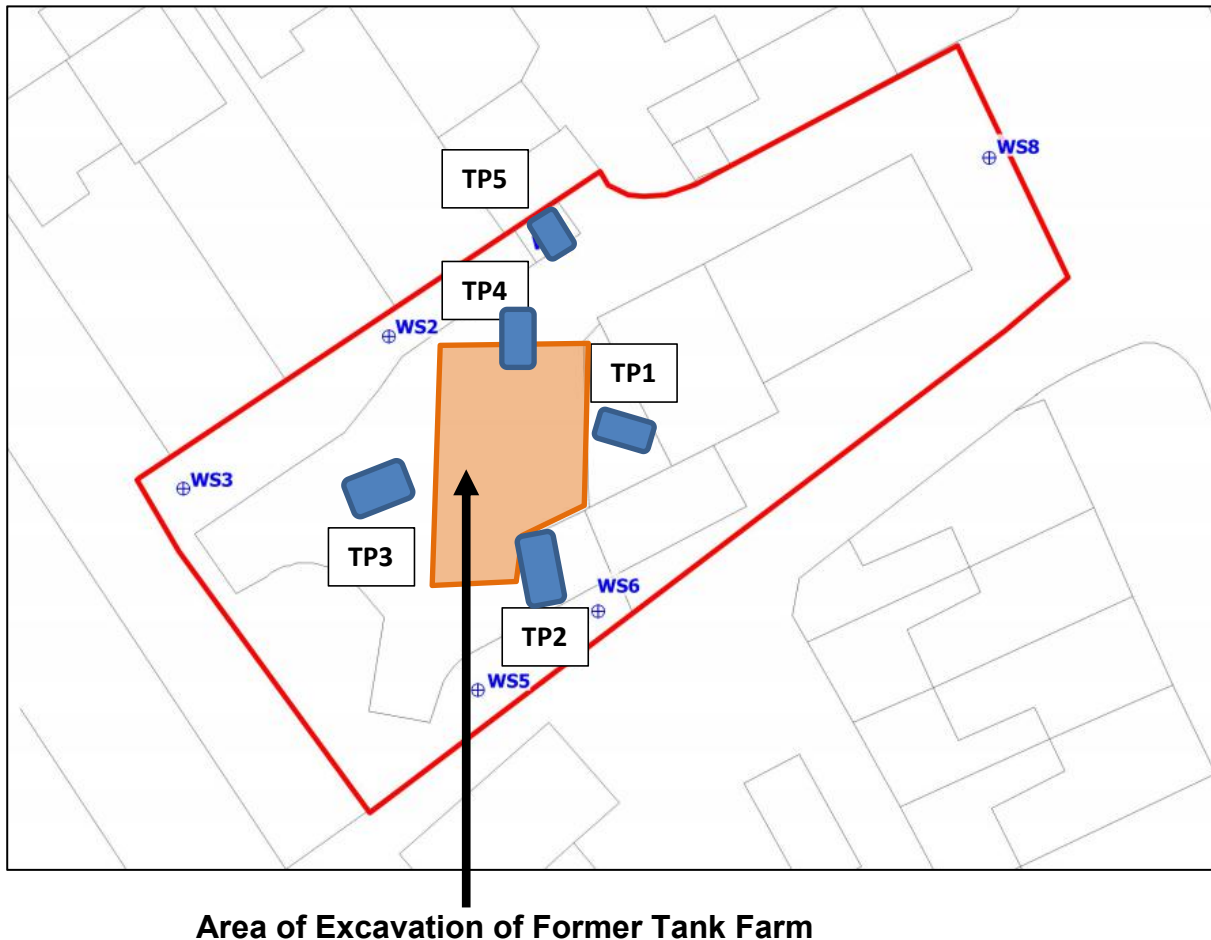
Appendix B

Trial Pit Records

APPENDIX 2

TRIAL PIT RECORDS

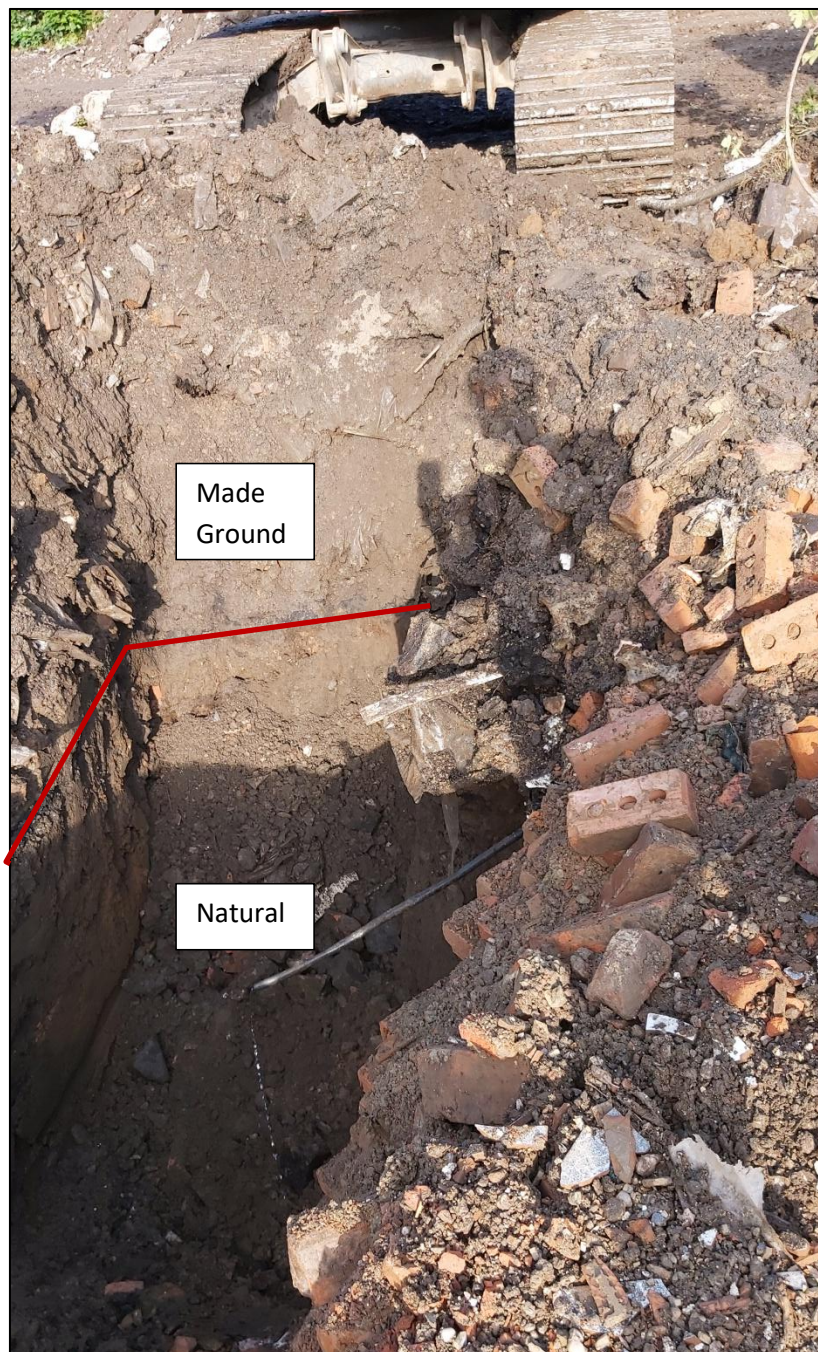
Trial Pit Locations



TRIAL PIT TP1

- 0.00 – 1.20 m Variable Demolition Material – Principally bricks and brick fragments and concrete with plastic sheet, piping, metal, wood, asphalt etc. (MADE GROUND)
Brick foundation/wall in north eastern end of pit. Sample CS1 1.00 m
- 1.20 – 2.10 m Brown clayey very gravelly ashy SAND with a low cobble content. Gravel and cobbles of angular to subangular of brick and sandstone. (MADE GROUND)
Sample CS2 1.75 m
- 2.10 - 3.10 m Brown silty fine SAND (GLACIOFLUVIAL DEPOSITS) Sample CS3 2.15 m

No groundwater encountered. No hydrocarbon odours



Photograph 1 – General of Pit



Photograph 2 – TP1 Side of Pit



Photograph 3 – TP1 Spoil

TRIAL PIT TP2

0.00 – 1.55 m Brown clayey very sandy GRAVEL with a low cobble content. Gravel angular to subangular of brick, clinker, slag, asphalt and concrete with <1% wire & wood.
(MADE GROUND) Sample CS1 0.75 m CS2 1.25 m

1.55 – 2.40 m Brown silty fine SAND (GLACIOFLUVIAL DEPOSITS) Sample CS3 2.30 m

No groundwater encountered. No hydrocarbon odours



Photograph 4 – TP2



Photograph 5 – TP2 Spoil

TRIAL PIT TP3

- 0.00 – 1.00 m Brown clayey very sandy GRAVEL with rare cobbles. Gravel angular to subangular of brick, clinker, asphalt and concrete with <1% wire & wood. Occasional pockets of black ash/clinker making up <1% of trial pit (MADE GROUND) Sample CS1 0.65 m from ash layer CS2 0.90 m
- 1.00 – 1.80 m Brown silty fine SAND (GLACIOFLUVIAL DEPOSITS) Sample CS3 1.80 m

No groundwater encountered. No hydrocarbon odours



Photograph 6 – TP3 Black ash layer/pockets



Photograph 7 – TP3 Spoil of Made Ground

TRIAL PIT TP4

Southern End of trial pit was imported 6F2 used to backfill tank excavation. Natural Glaciofluvial Sand at a depth of 3.80 m in south. CS3 4.00m

Main part of Trial Pit/North:

0.00 – 2.00 m Brownish grey clayey very sandy ashy GRAVEL with a medium cobble content. Gravel and cobbles of mainly angular to subangular of brick, clinker, asphalt and concrete with rare wood, metal and one piece of carpet. (MADE GROUND) Sample CS1 1.80 m

2.00 – 4.20 m Brown silty fine SAND (GLACIOFLUVIAL DEPOSITS) Sample CS2 3.50 m

No groundwater encountered. No hydrocarbon odours



Photograph 8 – Removed Tanks Waiting for Transport off Site



Photograph 9 – General Photo of North East Part Of Site



Photograph 10 – Cleared General Waste, Wood, Plastic etc temporarily stored on adjacent site (this site also owned by the developer) prior to disposal off-site



Photograph 11 – Off-Site Transformers

TRIAL PIT TP5

0.00 – 0.20 m Concrete

0.20 - 0.65 m Brown clayey sandy GRAVEL. Gravel angular to subangular of brick and concrete. (MADE GROUND)

0.65 - 1.10 m Dark brownish grey silty very sandy GRAVEL. Gravel angular to subangular of brick and concrete fragments. (MADE GROUND)

Sample CS1 0.95m

No groundwater encountered. No hydrocarbon odours

No Photographs Taken

Appendix C

Laboratory Chemical Test Results



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

cs@elab-uk.co.uk
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-35585

Issue: 1

Date of Issue: 27/08/2021

Contact: Chris Eccles

Customer Details: Redstart Northwest Limited
Unit 6 Oak Green Business Park
Earl Road
Cheadle Hulme
Cheshire SK8 6OL

Quotation No: Q21-02311

Order No: 649

Customer Reference: Not Supplied

Date Received: 24/08/2021

Date Approved: 27/08/2021

Details: Bury Old Road, Prestwich

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.: 21-35585, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
248654	TP1 1.00	20/08/2021	24/08/2021	Loamy sand	
248655	TP1 1.75	20/08/2021	24/08/2021	Loamy sand	
248656	TP1 2.15	20/08/2021	24/08/2021	Sandy loam	
248657	TP2 0.75	20/08/2021	24/08/2021	Sandy loam	
248658	TP2 1.25	20/08/2021	24/08/2021	Loamy sand	
248659	TP2 2.30	20/08/2021	24/08/2021	Loamy sand	
248660	TP3 0.65	20/08/2021	24/08/2021	Sandy loam	
248661	TP3 0.90	20/08/2021	24/08/2021	Sandy loam	
248662	TP3 1.80	20/08/2021	24/08/2021	Loamy sand	
248663	TP4 1.80	20/08/2021	24/08/2021	Loamy sand	
248664	TP4 3.50	20/08/2021	24/08/2021	Sandy loam	
248665	TP4 4.00	20/08/2021	24/08/2021	Loamy sand	
248666	TP5 0.95	20/08/2021	24/08/2021	Loamy sand	

Results Summary

2683

Report No.: 21-35585, issue number 1

ELAB Reference	248654	248655	248656	248657	248658
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP1	TP1	TP1	TP2	TP2
Sample Depth (m)	1.00	1.75	2.15	0.75	1.25
Sampling Date	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Material removed	N	%	0.1	15.9	22.4	n/t	23.4	25.0
Description of Inert material removed	N		0	stones	stones	n/t	stones	stones
Metals								
Arsenic	M	mg/kg	1	15.2	28.2	n/t	13.9	12.3
Cadmium	M	mg/kg	0.5	0.6	1.2	n/t	0.5	0.8
Chromium	M	mg/kg	5	27.2	30.7	n/t	26.2	20.1
Copper	M	mg/kg	5	90.7	332	n/t	67.8	59.6
Lead	M	mg/kg	5	155	213	n/t	146	116
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5
Nickel	M	mg/kg	5	23.2	30.6	n/t	21.8	19.1
Selenium	M	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0
Zinc	M	mg/kg	5	218	230	n/t	136	95.8
Anions								
Water Soluble Sulphate	M	mg/l	20	111	28	n/t	345	151
Miscellaneous								
pH	M	pH units	0.1	9.2	8.7	n/t	10.4	11.5
Total Organic Carbon	N	%	0.01	1.5	4.6	n/t	2.7	2.7
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	0.2	0.4	n/t	0.4	0.2
Acenaphthylene	M	mg/kg	0.1	0.1	< 0.1	n/t	0.1	0.2
Acenaphthene	M	mg/kg	0.1	0.8	0.7	n/t	0.7	< 0.1
Fluorene	M	mg/kg	0.1	0.6	0.4	n/t	0.4	0.1
Phenanthrene	M	mg/kg	0.1	9.7	6.6	n/t	3.1	1.4
Anthracene	M	mg/kg	0.1	2.6	1.8	n/t	0.9	0.4
Fluoranthene	M	mg/kg	0.1	21.5	13.7	n/t	5.6	3.0
Pyrene	M	mg/kg	0.1	18.8	12.0	n/t	5.0	3.0
Benzo(a)anthracene	M	mg/kg	0.1	8.5	6.4	n/t	2.7	1.6
Chrysene	M	mg/kg	0.1	9.5	7.5	n/t	3.4	1.9
Benzo(b)fluoranthene	M	mg/kg	0.1	7.8	6.4	n/t	3.2	1.8
Benzo(k)fluoranthene	M	mg/kg	0.1	7.3	5.8	n/t	3.1	1.8
Benzo(a)pyrene	M	mg/kg	0.1	8.5	6.6	n/t	3.1	2.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	6.7	5.3	n/t	2.7	1.6
Dibenzo(a,h)anthracene	M	mg/kg	0.1	1.6	1.4	n/t	1.0	0.4
Benzo[g,h,i]perylene	M	mg/kg	0.1	5.5	4.3	n/t	1.1	1.3
Total PAH(16)	M	mg/kg	0.4	110	79.5	n/t	36.5	20.9

Results Summary

2683

Report No.: 21-35585, issue number 1

ELAB Reference	248654	248655	248656	248657	248658
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP1	TP1	TP1	TP2	TP2
Sample Depth (m)	1.00	1.75	2.15	0.75	1.25
Sampling Date	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD					
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	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	3.0	< 1.0
>C16-C21 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0	10.7	< 1.0
>C21-C35 Aliphatic	M	mg/kg	1	3.5	9.3	< 1.0	62.0	< 1.0
>C35-C40 Aliphatic	M	mg/kg	1	< 1.0	3.3	< 1.0	37.4	< 1.0
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	5.1	14.2	< 1.0	114	1.5
>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	M	mg/kg	1	< 1.0	< 1.0	< 1.0	1.5	< 1.0
>C12-C16 Aromatic	M	mg/kg	1	1.8	2.9	< 1.0	8.9	< 1.0
>C16-C21 Aromatic	M	mg/kg	1	8.1	15.6	< 1.0	24.4	2.6
>C21-C35 Aromatic	M	mg/kg	1	38.0	45.8	< 1.0	106	9.6
>C35-C40 Aromatic	M	mg/kg	1	6.8	7.8	< 1.0	71.7	< 1.0
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	55.3	72.6	< 1.0	213	13.8
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	60.4	86.8	< 1.0	327	15.2
PCB (ICES 7 congeners)								
PCB 28	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 52	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 101	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 118	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 153	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 138	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 180	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	n/t

Results Summary

2683

Report No.: 21-35585, issue number 1

ELAB Reference	248659	248660	248661	248662	248663
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP2	TP3	TP3	TP3	TP4
Sample Depth (m)	2.30	0.65	0.90	1.80	1.80
Sampling Date	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Material removed	N	%	0.1	n/t	25.4	n/t	n/t	22.0
Description of Inert material removed	N		0	n/t	stones	n/t	n/t	stones
Metals								
Arsenic	M	mg/kg	1	n/t	12.4	n/t	n/t	14.4
Cadmium	M	mg/kg	0.5	n/t	0.7	n/t	n/t	0.6
Chromium	M	mg/kg	5	n/t	25.7	n/t	n/t	27.0
Copper	M	mg/kg	5	n/t	53.5	n/t	n/t	69.9
Lead	M	mg/kg	5	n/t	110	n/t	n/t	182
Mercury	M	mg/kg	0.5	n/t	< 0.5	n/t	n/t	< 0.5
Nickel	M	mg/kg	5	n/t	21.7	n/t	n/t	20.0
Selenium	M	mg/kg	1	n/t	< 1.0	n/t	n/t	< 1.0
Zinc	M	mg/kg	5	n/t	126	n/t	n/t	170
Anions								
Water Soluble Sulphate	M	mg/l	20	n/t	186	n/t	n/t	321
Miscellaneous								
pH	M	pH units	0.1	n/t	10.6	n/t	n/t	11.0
Total Organic Carbon	N	%	0.01	n/t	1.8	n/t	n/t	1.5
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	n/t	0.5	n/t	n/t	0.2
Acenaphthylene	M	mg/kg	0.1	n/t	0.1	n/t	n/t	< 0.1
Acenaphthene	M	mg/kg	0.1	n/t	6.9	n/t	n/t	0.3
Fluorene	M	mg/kg	0.1	n/t	4.9	n/t	n/t	0.2
Phenanthrene	M	mg/kg	0.1	n/t	63.1	n/t	n/t	2.1
Anthracene	M	mg/kg	0.1	n/t	19.1	n/t	n/t	0.6
Fluoranthene	M	mg/kg	0.1	n/t	102	n/t	n/t	6.0
Pyrene	M	mg/kg	0.1	n/t	83.6	n/t	n/t	5.0
Benzo(a)anthracene	M	mg/kg	0.1	n/t	47.2	n/t	n/t	2.8
Chrysene	M	mg/kg	0.1	n/t	52.6	n/t	n/t	3.2
Benzo(b)fluoranthene	M	mg/kg	0.1	n/t	38.2	n/t	n/t	2.9
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	32.9	n/t	n/t	2.6
Benzo(a)pyrene	M	mg/kg	0.1	n/t	36.7	n/t	n/t	3.0
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	n/t	23.6	n/t	n/t	2.4
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	6.7	n/t	n/t	0.6
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	18.2	n/t	n/t	1.9
Total PAH(16)	M	mg/kg	0.4	n/t	537	n/t	n/t	33.6



Results Summary

2683

Report No.: 21-35585, issue number 1

ELAB Reference	248659	248660	248661	248662	248663
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP2	TP3	TP3	TP3	TP4
Sample Depth (m)	2.30	0.65	0.90	1.80	1.80
Sampling Date	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD					
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	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	M	mg/kg	1	< 1.0	1.6	3.4	< 1.0	< 1.0
>C16-C21 Aliphatic	M	mg/kg	1	< 1.0	5.3	9.3	< 1.0	1.2
>C21-C35 Aliphatic	M	mg/kg	1	< 1.0	44.5	49.8	1.9	3.4
>C35-C40 Aliphatic	M	mg/kg	1	< 1.0	22.5	22.0	< 1.0	1.2
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	1.3	74.5	85.7	3.3	7.3
>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	0.04
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	M	mg/kg	1	< 1.0	< 1.0	1.0	< 1.0	< 1.0
>C12-C16 Aromatic	M	mg/kg	1	< 1.0	3.2	4.0	< 1.0	1.7
>C16-C21 Aromatic	M	mg/kg	1	1.5	12.3	13.1	4.9	3.6
>C21-C35 Aromatic	M	mg/kg	1	3.8	185	94.0	3.4	11.5
>C35-C40 Aromatic	M	mg/kg	1	< 1.0	110	21.6	< 1.0	1.6
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	6.2	312	135	9.3	19.6
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	7.5	386	220	12.6	26.9
PCB (ICES 7 congeners)								
PCB 28	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 52	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 101	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 118	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 153	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 138	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB 180	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	n/t

Results Summary

2683

Report No.: 21-35585, issue number 1

ELAB Reference	248664	248665	248666
Customer Reference			
Sample ID			
Sample Type	SOIL	SOIL	SOIL
Sample Location	TP4	TP4	TP5
Sample Depth (m)	3.50	4.00	0.95
Sampling Date	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD			
Soil sample preparation parameters						
Material removed	N	%	0.1	n/t	n/t	18.4
Description of Inert material removed	N		0	n/t	n/t	stones
Metals						
Arsenic	M	mg/kg	1	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t
Anions						
Water Soluble Sulphate	M	mg/l	20	n/t	n/t	n/t
Miscellaneous						
pH	M	pH units	0.1	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	n/t	n/t	n/t
Polyaromatic hydrocarbons						
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t
Benzo(b)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t
Benzo(a)pyrene	M	mg/kg	0.1	n/t	n/t	n/t
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t



Results Summary

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Report No.: 21-35585, issue number 1

ELAB Reference	248664	248665	248666
Customer Reference			
Sample ID			
Sample Type	SOIL	SOIL	SOIL
Sample Location	TP4	TP4	TP5
Sample Depth (m)	3.50	4.00	0.95
Sampling Date	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD			
TPH CWG						
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	M	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	M	mg/kg	1	4.6	< 1.0	2.8
>C16-C21 Aliphatic	M	mg/kg	1	14.5	1.1	5.4
>C21-C35 Aliphatic	M	mg/kg	1	63.8	2.6	20.8
>C35-C40 Aliphatic	M	mg/kg	1	46.9	< 1.0	15.4
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	131	5.4	45.4
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	M	mg/kg	1	1.2	< 1.0	< 1.0
>C12-C16 Aromatic	M	mg/kg	1	7.1	1.2	3.3
>C16-C21 Aromatic	M	mg/kg	1	20.9	8.3	6.6
>C21-C35 Aromatic	M	mg/kg	1	133	12.4	42.5
>C35-C40 Aromatic	M	mg/kg	1	119	< 1.0	31.5
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	282	23.5	85.0
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	412	28.8	130
PCB (ICES 7 congeners)						
PCB 28	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB 52	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB 101	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB 118	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB 153	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB 138	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB 180	M	mg/kg	0.01	n/t	n/t	< 0.01
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03

Results Summary

Report No.: 21-35585, issue number 1

ELAB Reference				248654	248655	248656	248657	248658	248659
Customer Reference									
Sample ID									
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				TP1	TP1	TP1	TP2	TP2	TP2
Sample Depth (m)				1.00	1.75	2.15	0.75	1.25	2.30
Sampling Date				20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021
Determinand	Codes	Units	LOD						
VOC									
Heptane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Octane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nonane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Benzene	M	ug/kg	10	< 10.0	< 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	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
m+p-xylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
o-xylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
cis-1,2-dichloroethene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-Dichloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Chloroform	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Tetrachloromethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,1-Trichloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichloroethylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Tetrachloroethylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,1,2-Tetrachloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,2,2-Tetrachloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Chlorobenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromobenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromodichloromethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Methylethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-Dichloro-1-propene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trans - 1-2 -dichloroethylene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,2-Dichloropropane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromochloromethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dichloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Dibromomethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dichloropropane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
cis-1,3-Dichloro-1-propene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
trans-1,3-Dichloro-1-propene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,2-Trichloroethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Dibromochloromethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3-Dichloropropane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-dibromoethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Styrene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Propylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-Chlorotoluene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2,4-Trimethylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
4-Chlorotoluene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
t-butylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3,5-Trimethylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1-methylpropylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
p-cymene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3-Dichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Butylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dibromo-3-chloropropane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Hexachlorobutadiene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1-2-3 - Trichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Naphthalene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1-2-4 - Trichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,4-Dichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromoform	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

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Report No.: 21-35585, issue number 1

ELAB Reference	248660	248661	248662	248663	248664	248665
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP3	TP3	TP3	TP4	TP4	TP4
Sample Depth (m)	0.65	0.90	1.80	1.80	3.50	4.00
Sampling Date	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021

Determinand	Codes	Units	LOD						
VOC									
Heptane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Octane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nonane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	37.1	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
m+p-xylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	21.8	< 10.0	< 10.0
o-xylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	14.4	< 10.0	< 10.0
cis-1,2-dichloroethene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-Dichloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Chloroform	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Tetrachloromethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,1-Trichloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trichloroethylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Tetrachloroethylene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,1,2-Tetrachloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,2,2-Tetrachloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Chlorobenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromobenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromodichloromethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Methylethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1-Dichloro-1-propene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Trans - 1-2 -dichloroethylene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2,2-Dichloropropane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromochloromethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dichloroethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Dibromomethane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dichloropropane	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
cis-1,3-Dichloro-1-propene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
trans-1,3-Dichloro-1-propene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,1,2-Trichloroethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Dibromochloromethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3-Dichloropropane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-dibromoethane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Styrene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Propylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
2-Chlorotoluene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2,4-Trimethylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
4-Chlorotoluene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
t-butylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3,5-Trimethylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1-methylpropylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
p-cymene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,3-Dichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Butylbenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dibromo-3-chloropropane	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Hexachlorobutadiene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1-2-3 - Trichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Naphthalene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1-2-4 - Trichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,4-Dichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1,2-Dichlorobenzene	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Bromoform	N	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

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Report No.: 21-35585, issue number 1

ELAB Reference	248666
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	TP5
Sample Depth (m)	0.95
Sampling Date	20/08/2021

Determinand	Codes	Units	LOD	
VOC				
Heptane	N	ug/kg	10	< 10.0
Octane	N	ug/kg	10	< 10.0
Nonane	N	ug/kg	10	< 10.0
Benzene	M	ug/kg	10	< 10.0
Toluene	M	ug/kg	10	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0
m+p-xylene	M	ug/kg	10	< 10.0
o-xylene	M	ug/kg	10	< 10.0
cis-1,2-dichloroethane	N	ug/kg	10	< 10.0
1,1-Dichloroethane	M	ug/kg	10	< 10.0
Chloroform	M	ug/kg	10	< 10.0
Tetrachloromethane	M	ug/kg	10	< 10.0
1,1,1-Trichloroethane	M	ug/kg	10	< 10.0
Trichloroethylene	M	ug/kg	10	< 10.0
Tetrachloroethylene	M	ug/kg	10	< 10.0
1,1,1,2-Tetrachloroethane	M	ug/kg	10	< 10.0
1,1,2,2-Tetrachloroetha	M	ug/kg	10	< 10.0
Chlorobenzene	M	ug/kg	10	< 10.0
Bromobenzene	M	ug/kg	10	< 10.0
Bromodichloromethane	M	ug/kg	10	< 10.0
Methylethylbenzene	M	ug/kg	10	< 10.0
1,1-Dichloro-1-propene	M	ug/kg	10	< 10.0
Trans - 1-2 -dichloroethylene	N	ug/kg	10	< 10.0
2,2-Dichloropropane	N	ug/kg	10	< 10.0
Bromochloromethane	N	ug/kg	10	< 10.0
1,2-Dichloroethane	M	ug/kg	10	< 10.0
Dibromomethane	M	ug/kg	10	< 10.0
1,2-Dichloropropane	M	ug/kg	10	< 10.0
cis-1,3-Dichloro-1-propene	M	ug/kg	10	< 10.0
trans-1,3-Dichloro-1-propene	M	ug/kg	10	< 10.0
1,1,2-Trichloroethane	N	ug/kg	10	< 10.0
Dibromochloromethane	N	ug/kg	10	< 10.0
1,3-Dichloropropane	N	ug/kg	10	< 10.0
1,2-dibromoethane	N	ug/kg	10	< 10.0
Styrene	N	ug/kg	10	< 10.0
Propylbenzene	N	ug/kg	10	< 10.0
2-Chlorotoluene	N	ug/kg	10	< 10.0
1,2,4-Trimethylbenzene	N	ug/kg	10	< 10.0
4-Chlorotoluene	N	ug/kg	10	< 10.0
t-butylbenzene	N	ug/kg	10	< 10.0
1,3,5-Trimethylbenzene	N	ug/kg	10	< 10.0
1-methylpropylbenzene	N	ug/kg	10	< 10.0
p-cymene	N	ug/kg	10	< 10.0
1,3-Dichlorobenzene	N	ug/kg	10	< 10.0
Butylbenzene	N	ug/kg	10	< 10.0
1,2-Dibromo-3-chloropropane	N	ug/kg	10	< 10.0
Hexachlorobutadiene	N	ug/kg	10	< 10.0
1-2-3 - Trichlorobenzene	N	ug/kg	10	< 10.0
Naphthalene	N	ug/kg	10	< 10.0
1-2-4 - Trichlorobenzene	N	ug/kg	10	< 10.0
1,4-Dichlorobenzene	N	ug/kg	10	< 10.0
1,2-Dichlorobenzene	N	ug/kg	10	< 10.0
Bromoform	N	ug/kg	10	< 10.0



Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY
Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 21-35585, 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
248654	1.00	TP1	Brown sandy Soil,Stones,Brick,Foam	No asbestos detected	n/t	n/t	n/t	n/t
248657	0.75	TP2	Brown Sandy	No asbestos detected	n/t	n/t	n/t	n/t
248661	0.90	TP3	Brown Sandy Soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-35585, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
pH	M	Air dried sample	26/08/2021	113	Electromeric
PCB (ICES 7 congeners)	M	Air dried sample	25/08/2021	120	GC-MS
PAH (GC-FID)	M	As submitted sample	25/08/2021	133	GC-FID
Water soluble anions	M	Air dried sample	25/08/2021	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	25/08/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	25/08/2021	181	GC-MS
VOC in solids	M	As submitted sample	25/08/2021	181	GC-MS
Total organic carbon/Total sulphur	N	Air dried sample	26/08/2021	210	IR
TPH CWG soil by gc-gc	M	As submitted sample	25/08/2021	271	
Asbestos identification	U	Air dried sample	27/08/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	25/08/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-35585, 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"

LOD LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.
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

Appendix D

Summary of Chemical Test Results

Former Texaco Fuel Station, Bury Old Road, Prestwich

Chemical Test Results Summary



Remediation - Environmental - Demolition

Sample Type		Made Ground	Made Ground	Natural Sand	Made Ground	Made Ground	Natural Sand	Made Ground	Made Ground	Natural Sand	Made Ground	Natural Sand	Natural Sand	Made Ground	Results Assessment				
Sample Location		TP1	TP1	TP1	TP2	TP2	TP2	TP3	TP3	TP3	TP4	TP4	TP4	TP5	Summary of Results			Commercial Screening Criteria	Pass/ Fail
Sample Depth (m)		1.00	1.75	2.15	0.75	1.25	2.30	0.65	0.90	1.80	1.80	3.50	4.00	0.95	Minimum	Average	Maximum		
Sampling Date		20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021					
Determinand	Codes	Units	LOD																
Soil sample preparation parameters																			
Material removed	N	%	0.1	15.9	22.4	-	23.4	25	-	25.4	-	-	22	-	18.4	15.9	21.8	25.4	-
Description of Inert material removed	N		0	stones	stones	-	stones	stones	-	stones	-	-	stones	-	stones	-	-	-	-
Asbestos Screen																			
Asbestos Screen (presence/absence)	M	%	0.001	None Detected	-	-	None Detected	-	-	-	None Detected	-	-	-	-	None Detected	None Detected	None Detected	Presence
Metals																			
Arsenic	M	mg/kg	1	15.2	28.2	-	13.9	12.3	-	12.4	-	-	14.4	-	-	12.3	16.1	28.2	640 C4SL
Cadmium	M	mg/kg	0.5	0.6	1.2	-	0.5	0.8	-	0.7	-	-	0.6	-	-	0.5	0.7	1.2	420
Chromium (total) - Screening criteria for CrVI	M	mg/kg	5	27.2	30.7	-	26.2	20.1	-	25.7	-	-	27	-	-	20.1	26.2	30.7	49 C4SL
Copper	M	mg/kg	5	90.7	332	-	67.8	59.6	-	53.5	-	-	69.9	-	-	53.5	112.3	332	68000
Lead	M	mg/kg	5	155	213	-	146	116	-	110	-	-	182	-	-	110	153.7	213	2200 C4SL
Mercury	M	mg/kg	0.5	0.5	0.5	-	0.5	0.5	-	0.5	-	-	0.5	-	-	0.5	0.5	0.5	25.8
Nickel	M	mg/kg	5	23.2	30.6	-	21.8	19.1	-	21.7	-	-	20	-	-	19.1	22.7	30.6	980
Selenium	M	mg/kg	1	1.0	1.0	-	1.0	1.0	-	1.0	-	-	1.0	-	-	1.0	1.0	1.0	2000
Zinc	M	mg/kg	5	218	230	-	136	95.8	-	126	-	-	170	-	-	95.8	162.6	230	730000
Anions																			
Water Soluble Sulphate	M	mg/l	20	111	28	-	345	151	-	186	-	-	321	-	-	28	190.3	345	-
Miscellaneous																			
pH	M	pH units	0.1	9.2	8.7	-	10.4	11.5	-	10.6	-	-	11	-	-	8.7	10.2	11.5	5-11.5
Total Organic Carbon	N	%	0.01	1.5	4.6	-	2.7	2.7	-	1.8	-	-	1.5	-	-	1.5	2.5	4.6	-
Polyaromatic hydrocarbons																			
Naphthalene	M	mg/kg	0.1	0.2	0.4	-	0.4	0.2	-	0.5	-	-	0.2	-	-	0.2	0.3	0.5	460
Acenaphthylene	M	mg/kg	0.1	0.1	0.1	-	0.1	0.2	-	0.1	-	-	0.1	-	-	0.1	0.1	0.2	97000
Acenaphthene	M	mg/kg	0.1	0.8	0.7	-	0.7	0.1	-	6.9	-	-	0.3	-	-	0.1	1.6	6.9	97000
Fluorene	M	mg/kg	0.1	0.6	0.4	-	0.4	0.1	-	4.9	-	-	0.2	-	-	0.1	1.1	4.9	68000
Phenanthrene	M	mg/kg	0.1	9.7	6.6	-	3.1	1.4	-	63.1	-	-	2.1	-	-	1.4	14.3	63.1	22000
Anthracene	M	mg/kg	0.1	2.6	1.8	-	0.9	0.4	-	19.1	-	-	0.6	-	-	0.4	4.2	19.1	540000
Fluoranthene	M	mg/kg	0.1	21.5	13.7	-	5.6	3	-	102	-	-	6.0	-	-	3.0	25.3	102	23000
Pyrene	M	mg/kg	0.1	18.8	12	-	5	3	-	83.6	-	-	5.0	-	-	3.0	21.2	83.6	54000
Benzo(a)anthracene	M	mg/kg	0.1	8.5	6.4	-	2.7	1.6	-	47.2	-	-	2.8	-	-	1.6	11.5	47.2	170
Chrysene	M	mg/kg	0.1	9.5	7.5	-	3.4	1.9	-	52.6	-	-	3.2	-	-	1.9	13.0	52.6	350
Benzo(b)fluoranthene	M	mg/kg	0.1	7.8	6.4	-	3.2	1.8	-	38.2	-	-	2.9	-	-	1.8	10.1	38.2	44
Benzo(k)fluoranthene	M	mg/kg	0.1	7.3	5.8	-	3.1	1.8	-	32.9	-	-	2.6	-	-	1.8	8.9	32.9	1200
Benzo(a)pyrene	M	mg/kg	0.1	8.5	6.6	-	3.1	2.1	-	36.7	-	-	3.0	-	-	2.1	10.0	36.7	77 C4SL
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	6.7	5.3	-	2.7	1.6	-	23.6	-	-	2.4	-	-	1.6	7.1	23.6	510
Dibenzo(a,h)anthracene	M	mg/kg	0.1	1.6	1.4	-	1.0	0.4	-	6.7	-	-	0.6	-	-	0.4	2.0	6.7	3.6
Benzo(g,h,i)perylene	M	mg/kg	0.1	5.5	4.3	-	1.1	1.3	-	18.2	-	-	1.9	-	-	1.1	5.4	18.2	4000
Total PAH(16)	M	mg/kg	0.4	110	79.5	-	36.5	20.9	-	537	-	-	33.6	-	-	20.9	136.3	537	-
TPH CWG																			
>C5-C6 Aliphatic	N	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	5900
>C6-C8 Aliphatic	N	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	17000
>C8-C10 Aliphatic	N	mg/kg	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	4800
>C10-C12 Aliphatic	M	mg/kg	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	23000
>C12-C16 Aliphatic	M	mg/kg	1	0.1	0.1	0.1	3	0.1	0.1	1.6	3.4	0.1	0.1	4.6	0.1	2.8	0.1	1.2	4.6
>C16-C21 Aliphatic	M	mg/kg	1	0.1	0.1	0.1	10.7	0.1	0.1	5.3	9.3	0.1	1.2	14.5	1.1	5.4	0.1	3.7	14.5
>C21-C35 Aliphatic	M	mg/kg	1	3.5	9.3	0.1	62	0.1	0.1	44.5	49.8	1.9	3.4	63.8	2.6	20.8	0.1	20.1	63.8
>C35-C40 Aliphatic	M	mg/kg	1	0.1	3.3	0.1	37.4	0.1	0.1	22.5	22	0.1	1.2	46.9	0.1	15.4	0.1	11.5	46.9
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	5.1	14.2	0.1	114	1.5	1.3	74.5	85.7	3.3	7.3	131	5.4	45.4	0.1	37.6	131
>C5-C7 Aromatic	N	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	46000
>C7-C8 Aromatic	N	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	110000
>C8-C10 Aromatic	N	mg/kg	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8100
>C10-C12 Aromatic	M	mg/kg	1	0.1	0.1	0.1	1.5	0.1	0.1	0.1	0.1	1	0.1	1.2	0.1	0.1	0.1	0.4	1.5
>C12-C16 Aromatic	M	mg/kg	1	1.8	2.9	0.1	8.9	0.1	0.1	3.2	4	0.1	1.7	7.1	1.2	3.3	0.1	2.7	8.9
>C16-C21 Aromatic	M	mg/kg	1	8.1	15.6	0.1	24.4	2.6	1.5	12.3	13.1	4.9	3.6	20.9	8.3	6.6	0.1	9.4	24.4
>C21-C35 Aromatic	M	mg/kg	1	38	45.8	0.1	106	9.6	3.8	185	94	3.4	11.5	133	12.4	42.5	0.1	52.7	185
>C35-C40 Aromatic	M	mg/kg	1	6.8	7.8	0.1	71.7	0.1	0.1	110	21.6	0.1	1.6	119	0.1	31.5	0.1	28.5	119
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	55.3	72.6	0.1	213	13.8	6.2	312	135	9.3	19.6	282	23.5	85	0.1	94.4	312
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	60.4	86.8	0.1	327	15.2	7.5	386	220	12.6	26.9	412	28.8	130	0.1	131.8	412
PCB (ICES 7 congeners)																			
PCB 28	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB 52	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB 101	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB 118	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB 153	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB 138	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB 180	M	mg/kg	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	-
PCB (Total of 7 Congeners)	M	mg/kg	0.03	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.01	0.1
Notes																			

1. Grey shading indicates result less than the detection limits.
2. Red shading indicates result higher than screening criteria.
3. Screening Criteria are Commercial/Industrial' S4UL and C4SL (Based on 2.5% SOM) (mg/kg). Mainly S4UL. Where these are C4SLs these are indicated.

Appendix E

Certificate of Tank Decommissioning 2016/4843



LEES INDUSTRIAL
SERVICES
THE MANUFACTURERS OF BRITFOAM®

Certificate of Tank Decommissioning 2016/4843

Site and address:

Texaco Service Station,
Bury Old Road,
Prestwich,
M25 OEY.

Date: 4th January 2016

Decommissioning Method: Foam filling
with BritFoam®, a resin based hardfoam

Customer:

Equipe Environmental Limited,
5 Norfolk, Road, St. Helens, Merseyside, WA10 3JN

Copy to:

Martin Lucas, Greater Manchester Fire and Rescue, HSHQ,
146 Bolton Road, Swinton, Manchester, M27 8US

Tank No	Capacity (Litres)	Product
1	36000	Unleaded
2	18000	Unleaded
3	18000	Unleaded
4	36000	Derv

We certify that the above below ground tanks, offsets and 5No. manhole chambers have been decommissioned with BritFoam®, a resin-based hard foam using an approved procedure rendering the same “decommissioned, safe and inert in situ”. All works and our product BritFoam® comply with the guidelines set out in APEA/IP’s Design, Construction, Modification, Maintenance and Decommissioning of Filling Stations, 3rd Edition, Revised June 2011 (the “Blue Book”). Cubic metres dispensed 125

Operative: Paul James Lees

Signature:

For and on behalf Lees Industrial Services Limited
322 Haydock Lane, Haydock Industrial Estate, Haydock,
St Helens, Merseyside, WA11 9UY

T: 01508 471600 or 01942 722244

Email: lees_ind_services@btinternet.com

Website: www.leesindustrialservices.co.uk