



**Former Draytons Garage, High Street,
Barley, Royston, SG8 8HT**

Remediation Works Verification Report

Report Reference: R-129-003008

June 2024

Report for:



REPORT & VERSION CONTROL

Report Reference : R- 129-003008		Dated : 25 th June 2024
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1. INTRODUCTION

Mayer Environmental Ltd (Mayer) was commissioned by NFC Homes Ltd to undertake verification of remedial works undertaken at the site located at Draytons Garage, Barley, Royston SG8 8HT.

The proposed development is for the construction of ten residential dwellings with associated gardens and parking. Site plans showing the development are included in Appendix A.

The Verification Works were required in line with the following planning conditions in relation to planning application reference 19/03064/FP:

8c: This site shall not be occupied, or brought into use, until:

(i) All works which form part of the Remediation Method Statement report pursuant to the discharge of condition (c) above have been fully completed and if required a formal agreement is submitted that commits to ongoing monitoring and/or maintenance of the remediation scheme.

(ii) A Remediation Verification Report confirming that the site is suitable for use has been submitted to, and agreed by, the Local Planning Authority.

9(4): No occupation of any part of the permitted development shall take place until a verification report demonstrating completion of works set out in the remediation strategy in (3). The long term monitoring and maintenance plan in (3) shall be updated and be implemented as approved.

The remedial works were based on the Remediation Strategy Report Revision A produced for NFC by Herts & Essex Site Investigations (HESI), Report ref 17254, dated October 2022.

Mayer were not directly involved with the remedial works which were undertaken by NFC, but were commissioned to produce a verification report based on the remedial works and validation of these works.

2. SUMMARY OF SITE INFORMATION

This section summarises information obtained from the HESI report dated October 2022. For full details please refer to the referenced report.

The site previously housed a petrol filling station at the front with a private residential dwelling to the rear and associated extensive gardens. A soakaway chamber and associated well were also identified on the west side of the site. Various stages of ground investigation works were undertaken by HESI between March 2022 and January 2023.

The ground conditions identified during the works identified Made Ground present across the site at depths varying from 0.15m bgl to 3.5m bgl. Underlying the Made Ground superficial deposits were identified with the bedrock of New Pit Chalk present underneath these deposits. No groundwater was identified during the works.

The ground investigation identified elevated levels of lead, petroleum hydrocarbons and PAHs in select locations. The presence of chrysotile asbestos fibres was also identified within a small number of locations.

No significant risks to groundwater were identified. No significant risks to future residents from ground gas or vapours were identified.

The Conceptual Site Model (CSM) detailed in the HESI report is summarised below. In order for the remedial work to be complete the Pollutant Linkages within the CSM need to be broken.

TABLE 1: SUMMARY OF CONCEPTUAL SITE MODEL IDENTIFYING EXISTING POLLUTANT LINKAGES

Source	Pathway	Receptor
Asbestos fibres identified within fill materials in select areas	Inhalation of Asbestos Fibres	Future Residents
Lead identified within fill materials in select areas	Direct contact Ingestion of dust and soil Ingestion of soils attached to vegetation	Future Residents
Petroleum Hydrocarbons identified within fill materials in select areas	Direct contact Ingestion of dust and soil Ingestion of soils attached to vegetation Inhalation of vapours Ingestion of contaminated water through water main	Future Residents
	Direct Contact	Buildings, Construction Materials
PAHs identified within fill materials in select areas	Direct contact Ingestion of dust and soil Ingestion of soils attached to vegetation	Future Residents

3. REMEDIATION REQUIREMENTS

The remediation requirements as set out in the HESI report comprise:

- Removal of below ground tanks and any contaminated soils surrounding them
- Decommissioning of soakaway chamber
- Soil Remediation Works
- Install clean and certified topsoil within soft landscaping

3.1 Tank Removal

It is understood that the tanks were decommissioned during the phase of works HESI undertook. The works are detailed more in the sections below and the validation report is included in Appendix A for completeness.

3.2 Decommissioning of Soakaway Chamber

The water within the soakaway chamber was tested by HESI and subsequently removed. It was recommended that the chamber is decommissioned to ensure it is made safe and is structurally stable by backfilling it with inert materials.

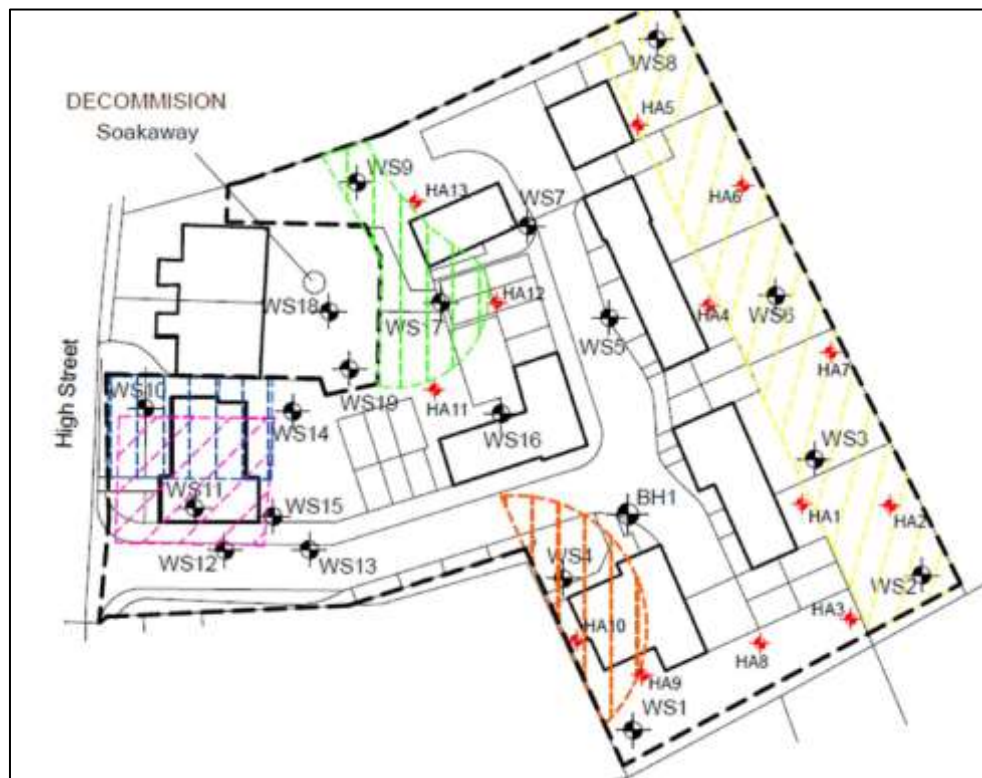
3.3 Soil Remediation Works

The areas of impacted cells identified by HESI were separated into five different 'cells' for ease of reference. The cells identified were:

- Cell 1 (pink) – Asbestos & PAH risk. Full removal of contamination
- Cell 2 (orange) – Lead Risk. Full removal or capping layer
- Cell 3 (blue) – TPH risk. Full removal of contamination or install hydrocarbon barrier
- Cell 4 (green) – PAHs & Lead Risk. Full removal or capping layer
- Cell 5 (yellow) – PAHs & Asbestos Risk – Full removal

The plan below shows the location of the five cells with each cell represented by a different colour as specified above.

PLAN 1 – LOCATION OF THE FIVE CELLS FOR REMEDIATION



4. TANK REMOVAL

A letter report from HESI dated 18th October 2022 and referenced CSG/17254 details the tank removal and validation testing undertaken. The report is included in Appendix A.

Three tanks were identified as present on the site and all were emptied, degassed and cleaned by a specialist contractor prior to removal. HESI undertook a site visit to review the removal and to collect validation samples from the sides and bases of the excavated areas. The samples were tested for speciated petroleum hydrocarbons, BTEX and MTBE.

The tanks were determined by the specialist contractor to be intact, indicating that it is unlikely leaks would have occurred. The testing undertaken by HESI did not identify any elevated levels of the parameters tested.

5. DECOMMISSIONING OF SOAKAWAY CHAMBER

The aim of decommissioning the soakaway was to make the chamber safe and backfilled to prevent any groundwater flow into the chamber. There was determined that no well was linked to the chamber and it was likely to have been used for storage only.

As per the HESI report the chamber was backfilled with inert materials.

6. SOIL REMEDIATION WORKS

6.1 Cell 1 – Asbestos & PAH Risk

6.1.1 Requirements

The Remedial Strategy identified that the either the full depth of the fill should be removed from the area of this cell which was identified as approximately 1m bgl.

6.1.2 Works Undertaken

The excavation of Cell 1 was undertaken early in the development programme with the photos below provided by the contractor as proof that the fill materials were removed to 1m bgl and replaced with imported soils. Evidence of a membrane placed as a visual barrier is also visible.



PHOTOGRAPHS 1 & 2 – EVIDENCE OF MEMBRANE IN CELL 1 AND 1 METRE DEPTH OF IMPORTED TOPSOIL

6.2 Cell 2 – Lead Risk

6.2.1 Requirements

The Remedial Strategy identified that the full depth of fill was to be removed from the area of this Cell. Validation sampling was required, comprising 3-4 samples around the perimeter of the excavation and 1-2 samples from the base.

6.2.2 Initial Sampling Visit – 30th January 2024

The initial verification sampling visit for Cell 2 was undertaken on the 30th January 2024. The excavation of Cell 2 was undertaken prior to Mayer's site visit. The reduced dig was noted to be of shallow depth, in alignment with the shallow nature of the lead contamination identified within this cell (to a depth of 0.2-m bgl). The photograph below shows the area excavated for Cell 2.

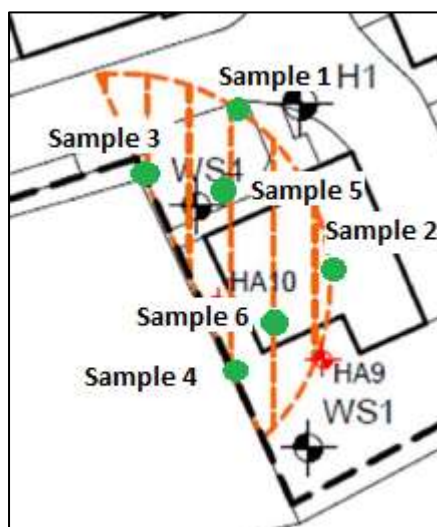


PHOTOGRAPH 3 - CELL 2 EXCAVATION – JANUARY 2024

A total of six samples were collected from the reduced dig area, four from the sides and two from the base.

The site plan below shows the location of the samples collected.

PLAN 2 – CELL 2



The six samples were submitted for lead analysis only and compared against the C4SL level for a Residential with Homegrown Produce end use (200 mg/kg). The laboratory test certificates are included in Appendix B.

The table below summarises the findings.

TABLE 2: INITIAL LEAD RESULTS- CELL 2

Sample Ref	Relevant C4SL*	Lead Result	Pass / Fail
Sample 1	200	140	Pass
Sample 2		240	Fail
Sample 3		100	Pass
Sample 4		140	Pass
Sample 5		80	Pass
Sample 6		140	Pass

**Refer to appendix for reference on derivation on C4SLs*

6.2.3 Subsequent Sampling Visit – 19th February 2024

Due to the failure of Sample 2, a further reduced dig was undertaken in the area of Cell 2 to a depth of 0.4m bgl. Photographs of the reduced dig in Cell 2 are included below.

**PHOTOGRAPHS 4 & 5 – FURTHER REDUCED DIG OF CELL 2**

As before, six samples in total were taken from the cell, four from the sides and two from the base, in the same locations as those shown above. The table below includes the soil descriptions of the six samples taken.

TABLE 3: SOIL DESCRIPTIONS- CELL 2 19TH FEBRUARY 2024

Sample Ref	Sample Description
Sample 1	Wet light brown gravelly CLAY. Gravel is fine to medium, angular to subrounded of flint and chalk. Occasional rootlets and wood fragments noted.
Sample 2	Wet light brown sandy gravelly CLAY. Gravel is fine to medium, angular to subrounded of flint and chalk. Occasional rootlets noted.
Sample 3	Brown, friable gravelly CLAY. Gravel is fine to coarse, angular to subrounded of flint, chalk and occasional slate.
Sample 4	Brown friable slightly gravelly CLAY. Gravel is fine to coarse, angular to subrounded of flint and chalk.
Sample 5	Brown gravelly CLAY. Gravel is fine to medium, angular to subrounded of chalk and flint.
Sample 6	Brown friable slightly gravelly CLAY. Gravel is fine to coarse, angular to subrounded of flint and chalk.

Based on the Remedial Strategy, the samples were submitted for lead analysis only. The table below summarises the findings.

TABLE 4: LEAD RESULTS- CELL 2

Sample Ref	Relevant C4SL*	Lead Result	Pass / Fail
Sample 1	200	95	Pass
Sample 2		64	Pass
Sample 3		150	Pass
Sample 4		76	Pass
Sample 5		93	Pass
Sample 6		30	Pass

**Refer to appendix for reference on derivation on C4SLs*

The analysis has determined that the lead impacted soils identified in the Remediation Strategy have been removed.

6.3 Cell 3 – TPH Risk

6.3.1 Requirements

The Remedial Strategy identified that the full depth of the fill should be removed from the area of this cell which was identified as approximately 0.4m bgl.

6.3.2 Works Undertaken

From Plan 1 in section 3.3 of this report it can be seen that Cells 1 & 3 overlap and therefore the evidence used for Cell 1 for removal of the contaminated soils and replacement of imported topsoils can also be used for Cell 3. Please refer to section 6.1.2 for this information.

6.4 Cell 4 – PAHs and Lead Risk

6.4.1 Requirements

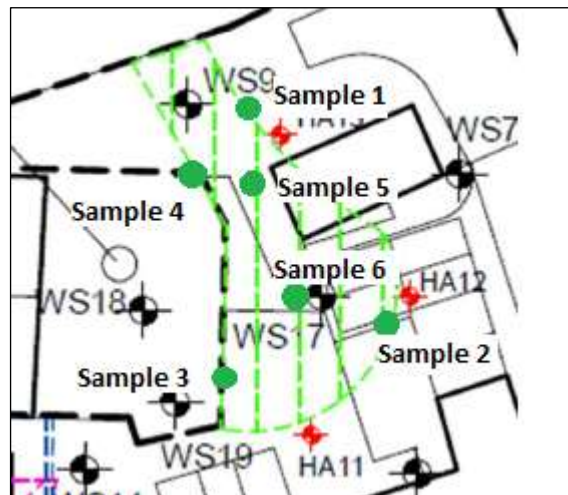
The Remedial Strategy identified that the full depth of fill was removed from the area of this Cell. Validation sampling was required comprising 3-4 samples around the perimeter of the excavation and 1-2 samples from the base.

6.4.2 Initial Sampling Visit – 30th January 2024

The initial verification sampling visit for Cell 4 was undertaken on the 30th January 2024. The excavation of Cell 4 was undertaken prior to Mayer's site visit. The reduced dig was noted to be of shallow depth, in alignment with the shallow nature of the lead and PAH contamination identified within this cell (between depths of 0.2m bgl and 0.25m bgl bgl). The photo below shows the excavation undertaken prior to Mayer's visit.

A total of six samples were collected from the reduced dig area, four from the sides and two from the base. The site plan below shows the location of the samples collected.

PLAN 3 – CELL 4



The six samples were submitted for lead and speciated PAH analysis only and compared against the C4SL levels for a Residential with Homegrown Produce end use (1% SOM for PAHs).

The table below includes the soil descriptions of the six samples taken.

TABLE 5: SOIL DESCRIPTIONS- CELL 4

Sample Ref	Sample Description
Sample 1 through 7	Light brown slightly gravelly, clayey, sandy TOPSOIL. Gravel is subangular to subrounded of flint and sandstone. Rootlets and roots present throughout the excavation.

Based on the Remedial Strategy, the samples were submitted for lead and speciated PAH analysis only.

The table below summarises the findings of the lead analysis.

TABLE 6: LEAD RESULTS- CELL 4

Sample Ref	Relevant C4SL*	Lead Result	Pass / Fail
Sample 1	200	96	Pass
Sample 2		140	Pass
Sample 3		46	Pass
Sample 4		52	Pass
Sample 5		27	Pass
Sample 6		19	Pass

**Refer to appendix for reference on derivation on C4SLs*

The analysis has determined that the lead impacted soils in the area of Cell 4 have been removed.

The analysis identified a number of elevated PAHs across the samples. The PAH summary table below summarises the PAHs that were identified at elevated levels.

TABLE 7: SUMMARY OF PAH RESULTS- CELL 4

Sample Ref	PAH	Relevant C4SL* (1% SOM)	Result	Pass / Fail
Sample 1	Benzo(b)fluoranthene	2.6	5.0	Fail
	Benzo(a)pyrene	2.2	4.1	Fail
	Dibenz(ah)anthracene	0.24	0.61	Fail
Sample 2	Benzo(b)fluoranthene	2.6	4.7	Fail
	Benzo(a)pyrene	2.2	3.6	Fail
	Dibenz(ah)anthracene	0.24	0.52	Fail
Sample 3	Benzo(b)fluoranthene	2.6	1.7	Pass
	Benzo(a)pyrene	2.2	1.2	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass
Sample 4	Benzo(b)fluoranthene	2.6	1.8	Pass
	Benzo(a)pyrene	2.2	1.4	Pass
	Dibenz(ah)anthracene	0.24	0.32	Fail
Sample 5	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass
Sample 6	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass

**Refer to appendix for reference on derivation on C4SLs*

The analysis determined that the PAH impacted soils identified in the Remediation Strategy had not been fully removed in the area of Cell 4.

6.4.3 Subsequent sampling Visit – 19th February 2024

Due to the failure of Samples 1, 2 and 4, a further reduced dig was undertaken in the area of Cell 4 to a depth of 0.4-0.6m bgl. Photographic evidence of the further reduced dig in Cell 4 are included below.



PHOTOGRAPH 6 – FURTHER REDUCED DIG OF CELL 4

As before, six samples in total were taken from the cell, four from the sides and two from the base in the same locations as those previously (see Plan 3 above). The table below includes the soil descriptions of the six samples taken.

TABLE 8: SOIL DESCRIPTIONS- CELL 4 19TH FEBRUARY 2024

Sample Ref	Sample Description
Sample 1	Soft light brown slightly sandy, slightly sandy CLAY. Gravel is fine to medium, subangular of chalk and flint. Occasional fine rootlets noted.
Sample 2	Light brown friable slightly gravelly CLAY. Gravel is fine, subangular of chalk. Occasional fine rootlets noted.
Sample 3	Light brown friable slightly gravelly CLAY. Gravel is fine, subangular of chalk. Occasional fine rootlets noted.
Sample 4	Soft light brown slightly sandy, slightly sandy CLAY. Gravel is fine to medium, subangular of chalk and flint. Occasional fine rootlets noted.
Sample 5	Soft orange/brown friable slightly gravelly CLAY. Gravel is fine, subangular of chalk. Occasional fine rootlets noted.
Sample 6	Soft light brown friable slightly gravelly CLAY. Gravel is fine, subangular of chalk. Occasional fine rootlets noted.

Based on the findings from the previous sampling visit, the six samples were submitted for speciated PAHs and organic matter content only.

The PAH summary table below summarises the PAHs that were identified previously at elevated levels.

TABLE 9: SUMMARY OF PAH RESULTS- CELL 4 – 19TH FEBRUARY 2024

Sample Ref	PAH	Relevant C4SL* (1% SOM)	Result	Pass / Fail
Sample 1	Benzo(b)fluoranthene	2.6	2.3	Pass
	Benzo(a)pyrene	2.2	1.7	Pass
	Dibenz(ah)anthracene	0.24	0.46	Fail
Sample 2	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass
Sample 3	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass
Sample 4	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass
Sample 5	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass
Sample 6	Benzo(b)fluoranthene	2.6	<0.1	Pass
	Benzo(a)pyrene	2.2	<0.1	Pass
	Dibenz(ah)anthracene	0.24	<0.1	Pass

**Refer to appendix for reference on derivation on C4SLs*

The data obtained indicates that the majority of the samples displayed PAHs below the level of detection (LOD). Only Sample 1 displayed an elevated level of one PAH, dibenz(ah)anthracene.

6.4.4 Subsequent sampling Visit – 6th March 2024

Due to the failure on one PAH from Sample 1, NFC further excavated the area of sample 1 and Mayer attended site on 6th March 2024 to undertake an additional sample from this area of Cell 4. The photograph below shows the additional excavation in the area of Sample 1 in Cell 4.



PHOTOGRAPH 7 – FURTHER EXCAVATION IN THE AREA OF SAMPLE 1 IN CELL 4

The table below contains the description of the sample referenced as Sample 1A.

TABLE 9: SOIL DESCRIPTIONS- CELL 4 SAMPLE 1A

Sample Ref	Sample Description
Sample 1A	Brown sandy CLAY with occasional angular gravel of flint.

The sample was submitted for a speciated PAH suite only with no elevated levels of PAHs detected.

6.5 Cell 5 – PAH & Asbestos Risk

6.5.1 Requirements

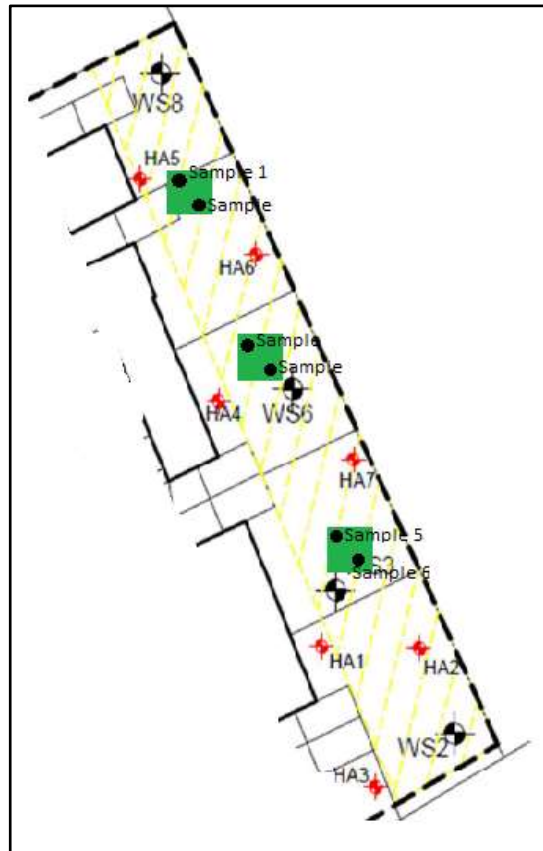
The Remedial Strategy identified that the full depth of fill was removed from the area of this Cell. The full depth of fill was identified as 0.2-0.4m. Validation sampling was required comprising 3-4 samples around the perimeter of the excavation and 1-2 samples from the base.

6.5.2 Sampling Visit – 30th January 2024

During the site visit undertaken by Mayer in January 2024 the area of Cell 5 was assessed for sampling. The cell stretches along the rear of the site and at the time of the visit was used as storage for building materials.

It was decided between Mayer and NFC that a number of test pits could be excavated to expose the natural superficial deposits. Three test pits were excavated with two samples collected from the base

of each to confirm that there was no evidence of contamination within the natural soils. The site plan below shows the location of the test pits excavated.



PLAN 4 – CELL 5

The six samples were submitted for PAHs and an asbestos screen as per the Remedial Strategy. The photographs below show the pits excavated to natural ground.



PHOTOGRAPHS 8 & 9 – TEST PIT FOR SAMPLES 1 & 2 WITH EVIDENCE OF THE NATURAL SOILS



PHOTOGRAPHS 10 & 11 – REMAINING TWO TEST PITS IN CELL 5

The table below includes the soil descriptions of the six samples taken.

TABLE 10: SOIL DESCRIPTIONS – CELL 5

Sample Ref	Sample Description
Samples 1 – 4	Light brown slightly gravelly SILT. Gravel is subangular to subrounded, medium of chalk.
Sample 5 & 6	Brown slightly gravelly SILT. Gravel is subangular to subrounded, fine to medium of flint and chalk. Frequent rootlets noted at base of pit.

Asbestos was not detected in any of the six samples taken from Cell 5. All PAH levels identified were below the relevant C4SL with regard to a residential end use.

6.5.3 Site Evidence of Full Removal in Cell 5

As it was not possible for Mayer to sample across the whole of the area of Cell 5 during any of the site visits undertaken due to this area being used for storage, NFC provided further photos as evidence that this area was excavated down to the natural soils prior to imported soils being placed.



PHOTOGRAPH 12 – CELL 5 EXCAVATED DOWN TO NATURAL SOILS (LOOKING NORTH)



PHOTOGRAPH 13 – CELL 5 EXCAVATED DOWN TO NATURAL SOILS (LOOKING SOUTH)

6.6 Summary of Cell Remediation

Overall it can be seen that the contaminated soils identified within the HESI report have been removed from site. Although there were a small number of failures within the validation samples, further excavation and testing of these areas has shown no soils have been left in-situ that may pose a risk to future residents.

7. IMPORTED TOPSOILS

7.1 Requirements

The Remediation Strategy identified that any imported topsoils and subsoils should conform to the relevant British Standard for Imported Topsoils (BS3882:2015) and Subsoils (BS8601:2013). Only topsoils have been imported onto the site.

The imported soils should be provided with a current certificate from the supplier and validation testing of the soils should be undertaken. The testing data should conform to the Imported Soils Criteria - Residential Land Use Standards included in Table 11 of the HESI report.

7.2 Supplier Topsoil Certificate

The topsoil has been sourced from Springbridge Direct Ltd from their site in Denham, Middlesex. A topsoil certificate dated March 2024 and provided by Springbridge is included in Appendix C.

This certificate provides evidence that the topsoil is suitable for a residential end use when compared to the relevant standards as detailed above.

7.3 Delivery of Imported Topsoil

NFC provided Mayer with delivery tickets for the topsoil imported to site from Springbridge.

The evidence provided indicates that a total of 27 loads of topsoil were delivered to site. Each load is anticipated to be 16 tonnes and therefore 432 tonnes of soils (approximately 260 cubic metres) of topsoil has been brought onto site. The tickets provided are dated between 2nd April 2024 and 4th June 2024 and are included in Appendix E.

7.4 Sampling and Testing of Imported Topsoil

Samples of the imported topsoil were collected by NFC on two occasions from a number of plots across the site. Plots 2, 8, 9 and 10 were sampled on the 17th April 2024 and Plots 3, 5 and 6 were sampled on the 2nd May 2024. The topsoil visually appears to be fairly homogeneous across the loads imported. Laboratory certificates for the topsoil testing is included in Appendix D.

The table below includes a general topsoil description for the imported soils.

TABLE 11: IMPORTED TOPSOIL DESCRIPTION

Sample Ref	Sample Description
Imported Topsoil	Dark brown (10YR 3/3) Sandy Loam with a granular, moderately developed structure. Occasional subrounded fine gravel of flint noted.

A total of seven samples were collected from Plots 2, 3, 5, 6, 8, 9 and 10. All samples were submitted for a BS3882 topsoil suite and a contamination suite including pH, metals, PAHS, speciated petroleum hydrocarbons and an asbestos screen. Select photographs of the sampled soils are included below.



PHOTOGRAPH 14 – PLOT 3 TOPSOIL SAMPLES



PHOTOGRAPHS 15 & 16 – TOPSOIL SAMPLES FROM PLOTS 6 & 10

7.4.1.1 Topsoil Assessment

All laboratory data has been compared to the BS3882 thresholds for a multipurpose topsoil.

The samples from across the seven plots possessed elevated electrical conductivity (salinity) values which exceeded the BS3882 specified value of 3300 us/cm. However the exchangeable sodium levels in all samples were shown to be below the BS3882 specified level of 15% and therefore it is considered that soluble salts should not be at levels that would restrict plant growth.

By particle size analysis, all the samples analysed were determined as Sandy Loam with the proportion of sand, silt and clay all falling with the respective BS3882 specified ranges.

The organic matter and nutrient status of the samples is summarised in the table below based on the criteria laid out in BS3882.

TABLE 12: SUMMARY OF NUTRIENT LEVELS WITHIN IMPORTED TOPSOIL SAMPLES

Sample Ref	Organic Matter*	Nitrogen	Phosphate	Potassium	Magnesium
Plot 2	✓	✓	✓	XX	✓
Plot 3	✓	✓	XX	XX	✓
Plot 5	✓	✓	XX	X	XX
Plot 6	✓	✓	XX	X	XX
Plot 8	✓	✓	XX	XX	✓
Plot 9	✓	✓	I/S	I/S	I/S
Plot 10	✓	✓	✓	XX	✓
✓ Adequately Supplied X Deficient XX Exceeds specified nutrient levels * Based on clay content I/S Insufficient Sample					

The analysis has shown that all samples displayed adequate organic matter and nitrogen levels. Phosphate was shown to be above the BS3882 thresholds in some samples as was magnesium. Potassium was shown to be above the BS3882 thresholds in a number of samples with two samples showing a deficiency in potassium.

The levels of phytotoxic metals, zinc, copper and nickel, were shown to be below the BS3882 thresholds in all of the samples.

7.4.1.2 Human Health Risk Assessment

Generally the analysis undertaken on the topsoil samples indicates that the topsoil are suitable for a residential end use when compared to the Imported Soils Criteria as set out in the HESI report.

Elevated levels of one PAH, Dibenz(a,h)anthracene, were identified in samples from Plots 3 and 5. The table below summarises the levels identified.

TABLE 13: SUMMARY OF PAH DATA FOR IMPORTED TOPSOIL SAMPLES

Sample Ref	PAH	Relevant Soils Criteria (6% SOM*)	Result	Pass / Fail
Plot 2	Dibenz(ah)anthracene	0.3	<0.1	Pass
Plot 3			1.2	Fail
Plot 5			0.38	Fail
Plot 6			0.19	Pass
Plot 8			0.25	Pass
Plot 9			<0.1	Pass
Plot 10			<0.1	Pass

*Based on sample data

Due to failures within the two samples, an additional five samples were collected per plot to ascertain if the levels were anomalies. The samples were submitted for organic matter content and PAHS only. The table below summarises the findings of the retests.

TABLE 14 SUMMARY OF PAH DATA FOR IMPORTED TOPSOIL SAMPLES

Sample Ref	PAH	Relevant Soils Criteria (6% SOM*)	Result	Pass / Fail
Plot 3 Sample 1	Dibenz(ah)anthracene	0.3	<0.1	Pass
Plot 3 Sample 2			<0.1	Pass
Plot 3 Sample 3			<0.1	Pass
Plot 3 Sample 4			<0.1	Pass
Plot 3 Sample 5			<0.1	Pass
Plot 5 Sample 1			<0.1	Pass
Plot 5 Sample 2			<0.1	Pass
Plot 5 Sample 3			<0.1	Pass
Plot 5 Sample 4			0.12	Pass
Plot 5 Sample 5			<0.1	Pass

*Based on sample data

The additional testing indicates that the original elevated levels are likely to be anomalies and there is unlikely to be any significant risk present from Dibenz(a,h)anthracene. No elevated levels of any other PAHS were identified within these additional samples.

8. DISPOSAL OF MATERIALS OFFSITE

Mayer have been provided by NFC with the waste transfer tickets for the soils removed from site. The tickets are provided in Appendix F.

The evidence provided indicates that a total of 34 loads of soil were removed from site. Each load is anticipated to be 16 tonnes and therefore 544 tonnes of soils (approximately 326 cubic metres) of soil has been removed site. The tickets provided are dated between 27th March 2024 and 2nd June 2024.

The soils appear to have been taken to three different destinations with further details gathered from online searches detailed in the table below. Not all the tickets have recorded the destination so it is unclear how much soil was transported to each.

TABLE 15: SUMMARY OF WASTE SOIL DESTINATIONS

Destination	EWG Code	Details
Tyttenhangar Quarry, AL4 0RY	17.05.06 Soils & Stones	Operated by Tarmac Trading Ltd for inert waste.
BP Mitchell	17.05.06 Soils & Stones	Inert Waste Recycling Operation
RMS Ltd	17.05.06 Soils & Stones	Waste Recycling Operation

9. CONCLUSIONS

In summary it can be seen that the Remedial Works have been completed in line with the Remedial Strategy.

The validation testing undertaken by Mayer and the photographic evidence provided by NFC indicates that the five areas (cells) of contamination identified by HESI have been removed from site. In addition, the tanks have been decommissioned and any impacted soils removed.

The topsoils imported onto site have been shown to be suitable for use within residential gardens. With regards to the nutrient levels within the topsoils, some were shown to be deficient and some to have

excess nutrient levels. However, this is not considered to be a significant issue with regard to validation of the works. As the gardens are mainly grass turf it is unlikely the nutrient levels will have a significant impact. Comment provided by the topsoil supplier indicates that the elevated nutrient levels may be due to compost mixed in with the topsoil and are likely to decrease with rain and watering. The full email response is included in Appendix C.

9.1 Risk Assessment & Conceptual Site Model

Completing the risk assessment process requires that the potential pollutant linkages be re-assessed from the conceptual model summarised within Section 2.

With respect to the site, the works undertaken indicate that no significantly contaminated soils remain in place that could impact the future residents. In addition, the imported topsoils have been shown to be suitable for use within residential gardens.

Therefore it is considered that no pollutant linkages previously identified within the CSM are present and all linkages have been broken.

10. REPORT LIMITATIONS

10.1 Site Specific Comments

This report comments on remedial works undertaken by NFC at the above site in order to discharge the relevant planning condition and make sure it is suitable for a residential end use. Mayer have not been involved directly with the remedial works and have been commissioned to provide a verification report based on information provided to us by NFC and by verification site visits undertaken by Mayer.

10.2 General

Third party information has been used in good faith and taken at face value. Mayer Environmental cannot guarantee the accuracy or completeness of Third Party information. It is assumed that previous reports provided have been assigned to the Client and can be relied upon. Should this not be the case, Mayer Environmental should be informed, as additional work may be required.

Site assessments can range from limited observations to extensive investigations, and testing. The degree of uncertainty in interpreting a site's environmental condition will depend upon the budget and scope of work authorised by the client. Some degree of uncertainty will always exist.

Chemical analysis was formulated to comply with land / groundwater quality assessment for Part 2A, Environmental Protection Act, 1990 (as amended) assessment. Analysis was not formulated to comply with drinking water supply requirements; unless stated otherwise.

The phrase 'suitable for use' is in keeping with the terminology used in planning designation and does not imply any specific warranty or guarantee.

This report may identify risks to site workers, including those during demolition, maintenance and redevelopment. Guidance on occupational health and safety issues is beyond the brief and scope of this report and appropriate advice should be sought by the client.

Please note that notwithstanding any site observations, including the presence or otherwise of archaeology; flora / fauna, including invasive weeds e.g. Japanese Knotweed, and / or asbestos-containing materials, this report does not comprise a formal survey and expert survey(s) / advice should be sought.

The recommendations in this report assume that ground levels will remain as those during the investigation, unless stated otherwise. If re-profiling is undertaken, then the conclusions and recommendations made may need re-evaluating. Any site boundary line on plans does not imply legal ownership of land.

This report has been prepared solely for the benefit of our client NFC Homes Ltd, for the purpose as outlined above. New site information, changes in practice / guidance or new legislation may require revised interpretation of the report, subsequent to its issue.

No warranty is offered to any third party and no responsibility or liability will be accepted for any loss or damage in the event that this report is relied upon, either in its entirety or in part, by a third party or used in circumstances for which it was not originally intended. This report shall not be transferred to or relied upon by any other party without express written permission of Mayer Environmental Ltd.

=====

11. REFERENCES

SITE SPECIFIC REPORTS

Herts & Essex Site Investigations (2022) *Remediation Strategy Report, Revision A, Report Ref. 17254, Dated October 2022.*

GENERAL REFERENCES

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British Standards Institution (2015) *BS5930:2015: Code of practice for ground investigations*. United Kingdom: BSI Standards Limited. [ISBN: 978 0 580 80062 7].

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British Standards Institution (2013) *BS8601:2013: Specification for Subsoil & Requirements For Use*. United Kingdom: BSI Standards Limited. [ISBN: 978 0 580 69112 6].

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Environment Agency, *Land Contamination Risk Management (LCRM) – How to Assess & Manage the Risks from Land Contamination*, Published 8th October 2020 [Accessed 15th October 2020]
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Nathanail CP, McCaffrey C, Gillett AG, Ogden RC and Nathanail JF (2015) *The LQM/CIEH S4ULs for Human Health Risk Assessment*. Nottingham: Land Quality Press. [ISBN: 978-0-9931084-0-2].

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Available from:
<http://www.nhbc.co.uk/NHBCpublications/LiteratureLibrary/Technical/filedownload,33595,en.pdf> [Accessed August 2017].

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Appendix A

Tank Removal Letter Report

18th October 2022

Our Ref: CSG/17254

 NFC Homes Ltd
 78 Pall Mall
 London
 SW1Y 5ES

Dear Sir,

Re: Drayton's Garage, High Street, Barley, SG8 8HT:

Tanks Removal and Validation Testing

As part of the demolition works completed at the above site the below ground tanks have been decommissioned and removed.

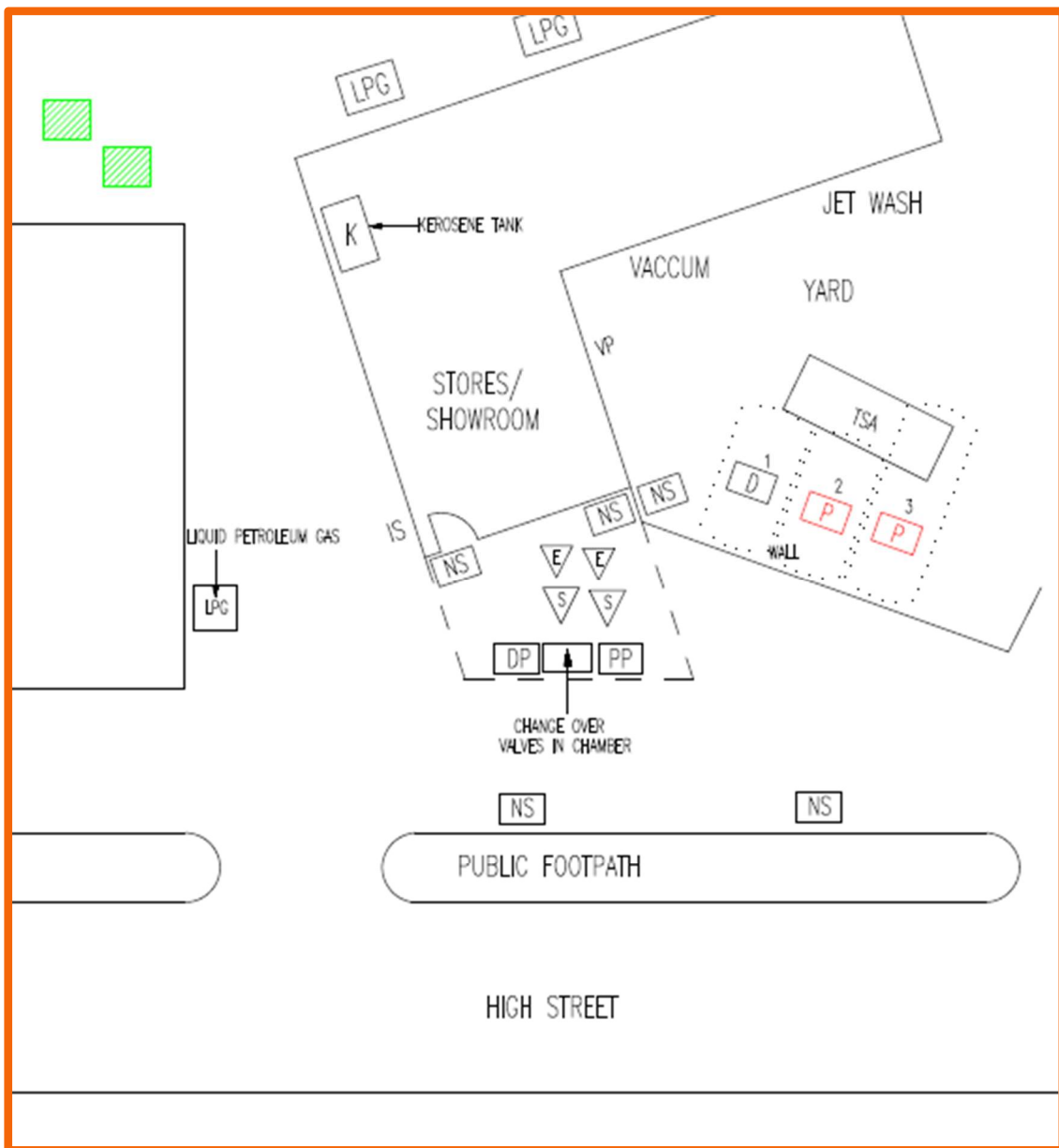
NFC homes PLC had contacted Petroleum Office and to gain any information that they have on file for the above site.

The following information and site plan has been provided :-

- 1) In 1963 three single skinned tanks were installed and are still in situ.
- 2) There are 2 x 500 gallon tanks that have been filled with concrete and remain on site. *(shown in green on the below plan)*
- 3) The tank formation is:

VESSEL	TANK NO	SINGLE DOUBLE MULTI	COUPLED WITH	WORKING CAPACITY	TOTAL CAPACITY	DATE INSTALLED	COMMENTS
A	1	Single		4,400	4,500	1963	Diesel
B	2	Single		4,400	4,500	1963	Petrol
B	3	Single		8,800	9,000	-	Petrol

- 4) There is no interceptor.
- 5) There is Stage 1b vapour recovery installed on site.
- 6) A copy of the Petroleum Drawing is attached
- 7) There have been no reported complaints or concerns from neighbouring land users.
- 8) The petroleum office recommended a company to remove and decommission the tanks



Prior to any remediation or demolition works being completed, the tanks were emptied, degassed and cleaned by J.W Hinchliffe (Tanks) Ltd who have provided the documentation and certification for the tank to be removed from the ground.

On assessment of the two 500 gallon tanks to the rear of the cottage (Tanks Farm B) J.W Hinchliffe (Tanks) Ltd found that they were not filled with concrete and as such were emptied clean and degassed prior to removal, as noted within their report.

SITE VISITS

Once the tanks had been removed from the ground HESI were invited to site to complete a review of the site and collect validation samples from the side and base of the excavated areas. This was completed on two separate visits, one for the tank farm within the south west of the site (Tank Farm A), and one for the tanks to the rear of the cottages towards the center of the site (Tank Farm B).

PHOTOS

HESI collected photos of excavations at the time of our visits, these are recorded below.

Print 1 Tank Farm A - SW



Print 2 Tank Farm A - SW



Print 3 Tank Farm A - SW



Print 4 Tank Farm A - SW



Print 5 Tank Farm A - SW



Print 6 Tank Farm A - SW



Print 7 Tank Farm A - SW



Print 8 Tank Farm B – Central



Print 9 Tank Farm B – Central



Print 10 Tank Farm B – Central



CHEMICAL TESTING

A site plan showing the location of the works is attached to this letter report.

The following testing was completed to assess the soils to the side and base of the excavation, with the chemical test results attached with this letter.

Table 1 **Validation Testing**

<i>Location</i>	<i>Remediation Cell No</i>	<i>Validation Sampling</i>	<i>Testing Criteria</i>	<i>Human health risk Pass/Fail</i>	<i>Comments</i>
South-west	Tank Farm A	1	West	✓	
		2	North	✓	
		3	East	✓	
		4	South	✓	
		5	Base	✓	
		Base FILL	INFILL	✓	
Central	Tank Farm B	A	West	✓	
		B	North	✓	
		C	East	✓	
		D	South	✓	
		E	Base	✓	

Based on the information above no risks are in place above a human health risk.

CONCLUSIONS

J.W Hinchliffe (Tanks) Ltd have completed a summary of their works completed at the site and note that there are no potential issues with corrosion within the tank or other issues to raise in regard to the tank internals, suggesting that the tanks are intact and therefore leaks are unlikely.

No elevated levels of TPH's, BTEX or MTBEs are recorded within the soils that were in place around the tanks.

Further assessment of the soils across the western section of the site, the forecourt, former buildings and around the former tank location should be completed to assess the deeper soils and provide a spatial coverage of the site as per the Desk Top Study report and Environmental Report.

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

Yours Faithfully



Rebecca Chamberlain
Assistant Engineer



Community Protection Directorate

Edward Brading
NFC Homes Limited,
78 Pall Mall
London
SW1Y 5ES

**Fire Protection
Regulatory Services**
Hertfordshire County Council
Room 346, Old Block, Postal Point CH0331
County Hall
Pegs Lane
Hertford, Herts SG13 8DQ

Telephone : 01707 292668
Email : lisa.waddingham@hertfordshire.gov.uk
Your ref :
My ref : SR 4789
Date : 21 May 2022

Please note, all correspondence must include our reference number. Failure to comply with this may delay our response.

Dear Edward,

**REF: Petroleum File 30-19557 Bellvue Garage (Drayton's), High Street,
Barley, SG8 8HT**

As requested, we have examined our files and are pleased to provide the following information.

Our records show that:

- 1) In 1963 three single skinned tanks were installed and are still in situ.
- 2) There are 2 x 500 gallon tanks that have been filled with concrete and remain on site.
- 3) The tank formation is:

VESSEL	TANK NO.	SINGLE DOUBLE MULTI	<i>COUPLED WITH</i>	<i>WORKING CAPACITY</i>	<i>TOTAL CAPACITY</i>	<i>DATE INSTALLED</i>	COMMENTS
A	1	Single		4,400	4,500	1963	Diesel
B	2	Single		4,400	4,500	1963	Petrol
C	3	Single		8,800	9,000	``	Petrol
	4						

- 4) There is no interceptor.
- 5) There is Stage 1b vapour recovery installed on site.
- 6) A copy of the Petroleum Drawing is attached
- 7) There have been no reported complaints or concerns from neighbouring land users

Please note that the details are correct according to our records. However, we cannot guarantee the accuracy of this information.

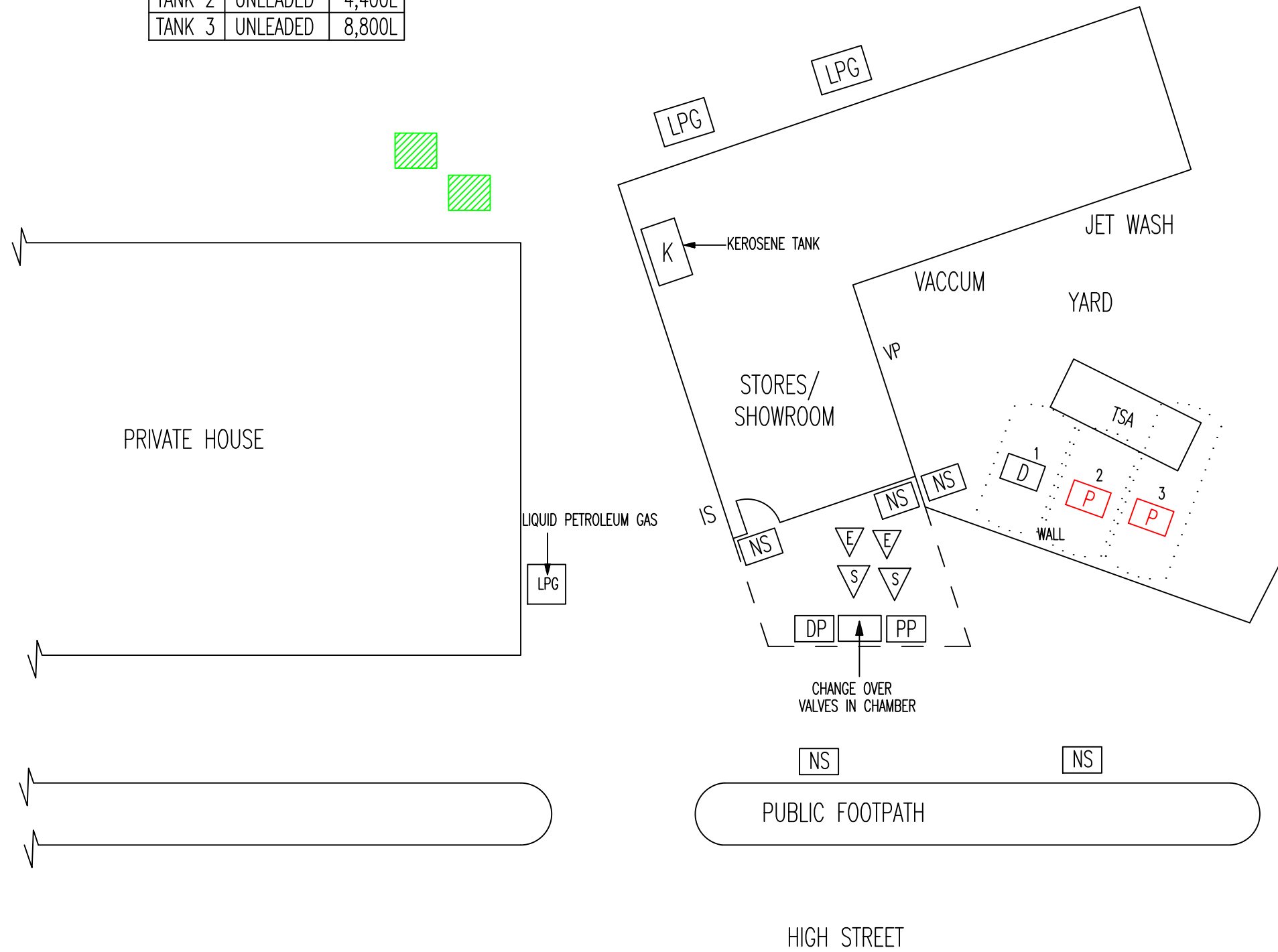
As agreed I have requested the file back from storage in Wales and will update you with any additional information.

Yours sincerely,

Lisa Waddingham
Petroleum Officer

Enc.

TANK 1	DIESEL	4,400L
TANK 2	UNLEADED	4,400L
TANK 3	UNLEADED	8,800L



HERTFORDSHIRE FIRE & RESCUE SERVICE

KEY TO PLAN SYMBOLS

SYMBOL OR ABBREVIATION	ITEM	DESCRIPTION
P	PETROL TANK	Underground Petrol Tank Manhole Chamber and Number (indicated in red on plan).
D	DIESEL TANK	Underground Diesel Tank.
	DISUSED TANK	Disused Underground Storage Tank (indicated in green on plan).
PP	PETROL PUMP	Petrol Dispensing Pump, Single Unit which may incorporate 2 nozzles.
DP	DIESEL PUMP	Diesel Dispensing Pump, Single Unit which may incorporate 2 nozzles.
E	FIRE EXTINGUISHER	5.5L AFFF Extinguisher or 9L Foam Extinguisher or 4Kg Dry Powder Extinguisher.
S	SAND BUCKET	25Kg of Dry Sand or other approved absorbent, suitably protected against the elements.
NS	NO SMOKING NOTICES	'No Smoking' notices incorporating statutory wording, 'Petroleum Spirit, Highly Flammable', and instruction 'Switch Off Engine' in accordance with B.S. 5499.
VP	VENT PIPE	Vent Pipe.
----	CANOPY	Line of Canopy.
IS	ISOLATION SWITCH	Isolation Switch (firemans pattern switch).
TSA	TANKER STANDING AREA	Designated Tanker Standing Area.
.....	TANK OUTLINE	Line of Underground Tank

HERTFORDSHIRE
Fire & Rescue Service

BELLE VUE GARAGE,
HIGH STREET,
BARLEY.
SG8 8HT

DRAWN:- A.H.

NOT TO SCALE

DATE:- 27/12/2012

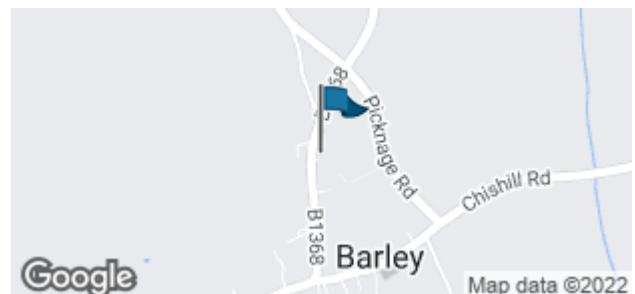
LICENCE No. 30/P/19557



Customer	DRAYTON'S GARAGE	Resource	John Hinchliffe
Contact	Edward Brading	Assisted by	James Wilson, Ben Murrell
Address	High Street Royston SG8 8HT	Job type	Commercial Tank Clean
		Reference	60624
		Order number	PO-008934
		Date	16/08/2022 10:00 - 19:00
Billing address	NFC Homes 78 Pall Mall London SW1Y 5ES	Job duration	09:00:00
		Assistant Job duration	09:00:00
		Driving duration	02:28:57
		Distance travelled	0 mi

Notes Safely empty and clean 3 x UST's and cold cut 2 x exposed UST's

Jordan Pearson



01. Pre Start Checks

	Answer	Notes
Have you signed in at site and attended induction if required?	Yes	
Have you located the fire muster point?	Yes	
How many engineers are on site?	Three	
1. RAMS confirmation signature	John Hinchliffe	



2. RAMS confirmation
signature

James Wilson



3. RAMS confirmation
signature

Ben Murrell



Are there any additional
hazards not covered by your
RAMS e.g. additional works
not included?

No

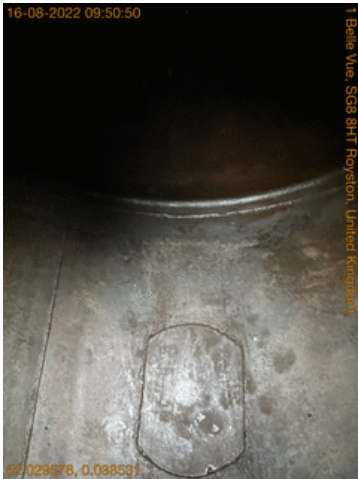
Please take photo of work
area upon arrival



Do you need a confined
space permit?

Yes

01. Tank Cleaning Report

	Answer	Notes
Tank Identification?	Tank 1 - 4400 litre diesel	
Has the tank been cleaned to the correct standard?	Yes	
Please take a photo of the internals.		
Please take a photo of the internals.		

Please take a photo of the
internals.



Are there any potential issues
with corrosion within the
tank?

No

Are there any other issues to
raise in regards to the tank
internals?

No

Is there another tank to report
on?

Yes

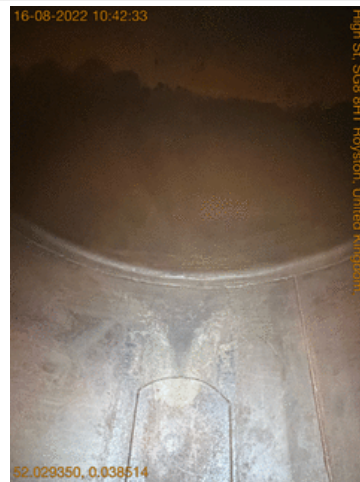
02. Tank Cleaning Report

	Answer	Notes
Tank Identification?	Tank 2 - 4400 litre petrol	
Has the tank been cleaned to the correct standard?	Yes	

Please take a photo of the
internals.



Please take a photo of the
internals.



Please take a photo of the
internals.



Are there any potential issues
with corrosion within the
tank?

No

Are there any other issues to
raise in regards to the tank
internals?

No

Is there another tank to report
on?

Yes

03. Tank Cleaning Report

	Answer	Notes
Tank Identification?	Tank 3 - 8800 litre petrol	
Has the tank been cleaned to the correct standard?	Yes	

Please take a photo of the
internals.



Please take a photo of the
internals.



Are there any potential issues
with corrosion within the
tank?

No

Are there any other issues to
raise in regards to the tank
internals?

No

Is there another tank to report
on?

Yes

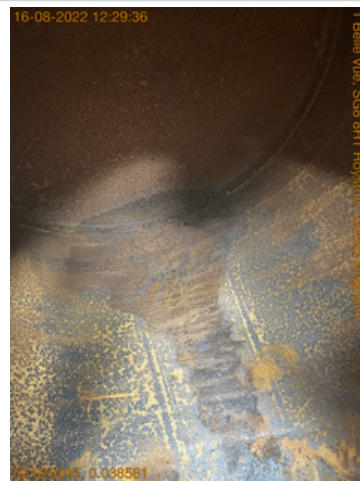
04. Tank Cleaning Report

	Answer	Notes
Tank Identification?	500 gallon - unknown fuel type	
Has the tank been cleaned to the correct standard?	Yes	

Please take a photo of the
internals.



Please take a photo of the
internals.



Please take a photo of the
internals.



Please take a photo of the internals.



Are there any potential issues with corrosion within the tank?

No

Are there any other issues to raise in regards to the tank internals?

No

Is there another tank to report on?

Yes

05. Tank Cleaning Report

	Answer	Notes
Tank Identification?	500 gallon - unknown fuel type	
Has the tank been cleaned to the correct standard?	Yes	

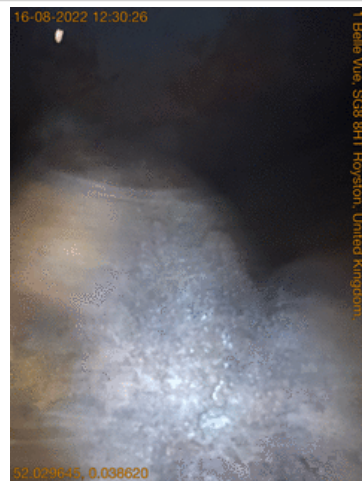
Please take a photo of the internals.



Please take a photo of the
internals.



Please take a photo of the
internals.



Please take a photo of the
internals.



Are there any potential issues
with corrosion within the
tank?

Are there any other issues to
raise in regards to the tank
internals?

No

Is there another tank to report
on?

No

1.2 Confined Space Permit

	Answer	Notes
Are all personnel involved trained in their respective roles for CS?	Yes	
Is there a suitable rescue plan in place?	Yes	
Is the required rescue equipment in place, suitable and in good condition?	Yes	
Support team in place, trained and aware of procedures for rescue?	Yes	
Entry point to confined space suitable and barriered if potential for fall from height?	Yes	
Any required lock off carried out?	Yes	
Suitable and if required ATEX lighting in place?	Yes	
Breathing apparatus in place, checked and in good order?	Yes	
Person/s entering the space trained for confined space entry?	Yes	
Supervisor issuing the permit.	John Hinchliffe	

JH

Entrant 1

James Wilson

JW

Is there a 2nd entrant	No
Supervisor cancellation.	John hinchliffe

JH

Entrant 1	James Wilson
-----------	--------------

JW

5. Cleaning Certificate - Tank Cleaning V2

	Answer	Notes
Has the job been completed as per the quotation?	Yes	
Do you need to issue a tank cleaning report?	Yes	
Is a gas free certificate required?	Yes	
Is a duty of care note required?	No	
Are there any advisory notes for the client?	No	
Does a Haz waste note require issuing?	Yes	

Add a photo of completed work area.



Gas Free Certificate

Weaver Street
Leeds
LS4 2AU

Date of Issue: 16/08/2022

Time of Issue: 12:38

Customer Name: Drayton's Garage

Location: High Street, Royston SG8 8HT

Job Ref: 60624

Tel: 0113 2635163

Fax: 0113 2635164

Email: info@jwhtanks.co.uk

Web: www.jwhtanks.co.uk

Declaration:

At the date and time shown, JWH Tanks Ltd, completed an atmospheric monitoring test of the installation named, with a calibrated LEL (Lower Explosive Limit) gas monitor. The Installation(s) mentioned were found to be free from the flammable gas or vapour and (subject to the conditions and advisory notes below) are deemed safe for the use of hot works.

Conditions:

The area observed should remain isolated for the duration of the works. Should the conditions observed during the examination be changed, this certificate will be cancelled. The certificate only relates to the area inside the installation, the entire area must be cleared of combustible material prior to any hot works.

Advisory Notes:

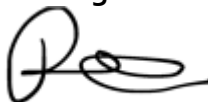
Works using hot cutting equipment and/or involving entering a confined space should only be undertaken by trained and competent personnel under a permit to work system. Reference should be made to The Confined Spaces Regulations 1997 and Management of Health and Safety Regulations 1999 along with relevant HSE guidance notes.

Petrol Tanks – Valid for 24 hours from the time stated above

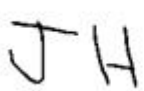
Number of tanks cleaned?	Capacities of tanks?	Identities of tanks? (if present)
4	8400 litre, 4400 litre and 2 x 2250 litre	8440 litre, 4400 litre and 2 x 2250 litre

Diesel Tanks – Valid for 7 days from the time stated above

Number of tanks cleaned?	Capacities of tanks?	Identities of tanks? (if present)
1	4400 litre	4400 litre

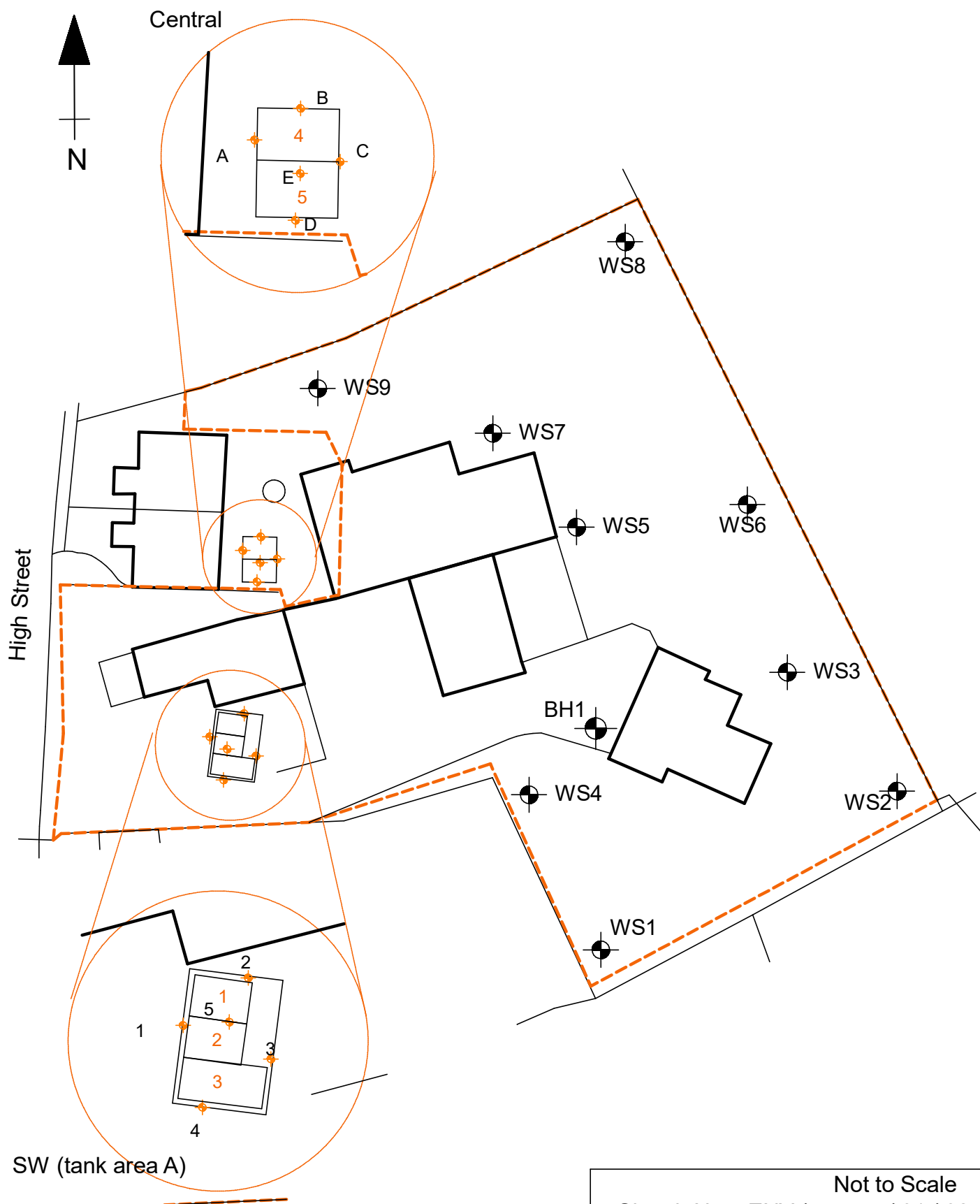
Client Signature: 	Client Name: Jordan pearson
---	------------------------------------

Engineer Name & Signature: John Hinchliffe 
--

PART A - NOTIFICATION DETAILS						
1. Consignment code: 60624			2. Premises Code (If applicable): DRAYTO			
3. Waste described below to be removed from (Name, Address, Telephone & Email) Drayton's Garage, High Street, Royston SG8 8HT, +441763848233,ebrading@nfhomes.co.uk						
4. Waste will be taken to: J W Hinchliffe Ltd, Weaver Street, Leeds, West Yorkshire, LS4 2AU						
5. The waste producer was (if different from 3):						
PART B - DESCRIPTION OF WASTE						
1. Process giving rise to the waste was: Tank Cleaning					2. SIC CODE: 43120	
3. Waste Details (Information to be completed for each EWC code collected)						
Description of Waste	EWC Code	Quantity (KG)	Components of the waste and their concentrations mg/kg or %	Physical Form	Hazard Codes	Container type Number & Size
Waste Containing Oil	160708	200	> 1% Hydrocarbons	Sludge	HP3	Vac Unit x 1 - 500L
The information below is to be completed for each EWC code						
EWC Code		Description for carriage (UN Number, Proper Shipping name, UN Class & Packing Group)			Special handling requirements	
160708					PPE	
					PPE	
PART C - CARRIERS CERTIFICATE				PART D - CONSIGNORS CERTIFICATE		
If more than one carrier is used, a schedule should be attached. If a schedule is attached, tick here				I certify that the information in A, B & C has been completed and is attached. If a schedule is attached, tick here. correct. The carrier is registered or exempt and was advised of the I certify that I today have collected the consignment and appropriate precautionary measures. All of the waste is labelled and that the details in A3, A4 & B3 are correct. I have been packaged correctly, and the carrier has been advised of any special informed of any special handling requirements. handling requirements. Where this note comprises part of a multiple collection, I have fulfilled my duty to apply the waste hierarchy as required by the round number and collection number are: Regulation 12 of the Waste (England & Wales) Regulations 2011.		
I certify that I today have collected the consignment and that the details in A3, A4 & B3 are correct. I have been informed of any special handling requirements.						
Where this note comprises part of a multiple collection, the round number and collection number are						
Driver's name: John Hinchliffe						
On Behalf of: J W Hinchliffe Ltd, Weaver Street, Leeds, LS4 2AU - Tel: 0113 263 5163 Email: enquiries@jwhtanks.co.uk				Consignor Name:Jordan pearson		
Carrier Reg: CB/DU93436				On Behalf of: Drayton's Garage, High Street, Royston SG8 8HT		
Vehicle Registration: KK17 UFJ				Telephone (If provided) :+447875485430		
				Email:ebrading@nfhomes.co.uk		
Date:16/08/2022		Time:12:38		Date:16/08/2022		Time:12:38
Drivers Signature: 				Consignor Signature: 		
PART E - CONSIGNEE CERTIFICATE (Complete for each EWC collected)						
EWC code	Quantity Received (KG)	EWC code accepted / rejected	Waste management operation (R or D code)			
160708	200	Accept	D15			
I received the waste at the address given in A4 on: Date & Time : 16/08/2022 17:00 Vehicle Reg: KK17 UFJ I certify that the waste management license / permit 65133 authorises the management of the waste described in B at the address given in A4. If the consignment forms a multiple collection, the total number of consignments are:		Name: Tom Charles On behalf of: J W Hinchliffe Ltd , Weaver Street, Leeds, LS4 2AU Tel: 01132635163 Email: enquiries@jwhtanks.co.uk Date & Time : 16/08/2022 17:00 Signature – 				

Draytons Grange, Barley, North Hertfordshire. SG8 8HT

Tank Validation Plan



Not to Scale
Sketch No. : ENV / 17254 / 01 / 02

**Chris Gray**

Herts & Essex Site Investigations
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Analytical Report Number : 22-79175

Project / Site name:	Draytons Grange, Barley, North Hertfordshire, SG8 8HT Tank Area A	Samples received on:	19/08/2022
Your job number:	17254	Samples instructed on/ Analysis started on:	19/08/2022
Your order number:	17254	Analysis completed by:	29/08/2022
Report Issue Number:	1	Report issued on:	29/08/2022
Samples Analysed:	6 soil samples		

Martyna Langer

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-79175

Project / Site name: Draytons Grange, Barley, North Hertfordshire, SG8 8HT Tank Area A

Your Order No: 17254

Lab Sample Number				2396016	2396017	2396018	2396019	2396020
Sample Reference				1	2	3	4	5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	8.7	11	6	8.3
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.9	0.9	0.9

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	1	< 1.0	< 1.0	< 1.0	15
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.2

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	8.2	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	22	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	53	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	< 10	83	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	0.001	< 0.001	< 0.001	< 0.001	0.078
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	17	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	13	54	23	13	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	16	71	29	21	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-79175

Project / Site name: Draytons Grange, Barley, North Hertfordshire, SG8 8HT Tai

Your Order No: 17254

Lab Sample Number				2396021
Sample Reference				Base Fill
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				18/08/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	0.8

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	23
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	43
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	67

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-79175

Project / Site name: Draytons Grange, Barley, North Hertfordshire, SG8 8HT Tank Area A

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2396016	1	None Supplied	None Supplied	Beige clay with chalk.
2396017	2	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2396018	3	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation.
2396019	4	None Supplied	None Supplied	Beige clay with gravel and chalk.
2396020	5	None Supplied	None Supplied	Brown clay with gravel and chalk.
2396021	Base Fill	None Supplied	None Supplied	Brown clay with gravel and chalk.

Analytical Report Number : 22-79175

Project / Site name: Draytons Grange, Barley, North Hertfordshire, SG8 8HT Tank Area A

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report



Analytical Report Number : 22-79175

Project / Site name: Draytons Grange, Barley, North Hertfordshire, SG8 8HT Tank Area A

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
1	None Supplied	S	2396016	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
1	None Supplied	S	2396016	b	TPHCWG (Soil)	L088/76-PL	b
2	None Supplied	S	2396017	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
2	None Supplied	S	2396017	b	TPHCWG (Soil)	L088/76-PL	b
3	None Supplied	S	2396018	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
3	None Supplied	S	2396018	b	TPHCWG (Soil)	L088/76-PL	b
4	None Supplied	S	2396019	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
4	None Supplied	S	2396019	b	TPHCWG (Soil)	L088/76-PL	b
5	None Supplied	S	2396020	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
5	None Supplied	S	2396020	b	TPHCWG (Soil)	L088/76-PL	b
Base Fill	None Supplied	S	2396021	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
Base Fill	None Supplied	S	2396021	b	TPHCWG (Soil)	L088/76-PL	b

Chris Gray

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Analytical Report Number : 22-81666

Project / Site name: Draytons Grange, Barley, North
Hertfordshire, SH8 8TH

Your job number: 17254

Your order number: 17254

Report Issue Number: 1

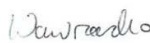
Samples Analysed: 5 soil samples

Samples received on: 02/09/2022

**Samples instructed on/
Analysis started on:** 02/09/2022

Analysis completed by: 09/09/2022

Report issued on: 09/09/2022


Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-81666

Project / Site name: Draytons Grange, Barley, North Hetfordshire, SH8 8TH

Your Order No: 17254

Lab Sample Number				2411010	2411011	2411012	2411013	2411014
Sample Reference				A	B	C	D	E
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	Base
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	15	16	11	7.2
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.4	0.4	0.4

General Inorganics

Organic Matter (automated)	%	0.1	MCERTS	1.3	2	2	2.1	0.7
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Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	12
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	21
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	41

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	10
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	12
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	40
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	12	< 10	< 10	14	99
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	18	< 10	< 10	20	160

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-81666

Project / Site name: Draytons Grange, Barley, North Hetfordshire, SH8 8TH

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2411010	A	None Supplied	None Supplied	Brown clay and sand with gravel.
2411011	B	None Supplied	None Supplied	Brown clay and sand with gravel.
2411012	C	None Supplied	None Supplied	Brown clay and sand with gravel.
2411013	D	None Supplied	None Supplied	Brown clay with gravel.
2411014	E	Base	None Supplied	Brown sand with gravel.

Analytical Report Number : 22-81666

Project / Site name: Draytons Grange, Barley, North Hetfordshire, SH8 8TH

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Analytical Report Number : 22-81666

Project / Site name: Draytons Grange, Barley, North Hetfordshire, SH8 8TH

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
A	None Supplied	S	2411010	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	bc
A	None Supplied	S	2411010	bc	TPHCWG (Soil)	L088/76-PL	b
B	None Supplied	S	2411011	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	bc
B	None Supplied	S	2411011	bc	TPHCWG (Soil)	L088/76-PL	b
C	None Supplied	S	2411012	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	bc
C	None Supplied	S	2411012	bc	TPHCWG (Soil)	L088/76-PL	b
D	None Supplied	S	2411013	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	bc
D	None Supplied	S	2411013	bc	TPHCWG (Soil)	L088/76-PL	b
E	Base	S	2411014	bc	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	bc
E	Base	S	2411014	bc	TPHCWG (Soil)	L088/76-PL	b

Appendix B

Laboratory Test Certificates – Validation Samples



Final Report

Report No.: 24-07256-1

Initial Date of Issue: 14-Mar-2024

Re-Issue Details:

Client Mayer Environmental Ltd

Client Address: Transport Avenue
Brentford
TW8 9HA

Contact(s): rebecca.beddard@mayer-enviro.com;
monitoring@mayer-enviro.com;
landquality@mayer-enviro.com

Project 129-3008-01 Draytons Garage

Quotation No.: Q24-33611

Date Received: 08-Mar-2024

Order No.: 129-005869

Date Instructed: 08-Mar-2024

No. of Samples: 1

Turnaround (Wkdays): 5

Results Due: 14-Mar-2024

Date Approved: 14-Mar-2024

Approved By:

Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 129-3008-01 Draytons Garage

Client: Mayer Environmental Ltd		Chemtest Job No.:		24-07256	
Quotation No.: Q24-33611		Chemtest Sample ID.:		1777614	
Order No.: 129-005869		Client Sample Ref.:		CELL 4	
		Client Sample ID.:		SAMPLE 1A	
		Sample Location:		Cell 4	
		Sample Type:		SOIL	
		Top Depth (m):		0	
		Bottom Depth (m):		0.4	
		Date Sampled:		06-Mar-2024	
		Time Sampled:		12:00	
		Asbestos Lab:			
Determinand	HWOL Code	Accred.	SOP	Units	LOD
ACM Type		U	2192		N/A
Asbestos Identification		U	2192		N/A
Moisture		N	2030	%	0.020
Soil Colour		N	2040		N/A
Other Material		N	2040		N/A
Soil Texture		N	2040		N/A
pH at 20C		M	2010		4.0
Electrical Conductivity (2:1)		N	2020	µS/cm	1.0
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010
Total Sulphur		U	2175	%	0.010
Cyanide (Total)		M	2300	mg/kg	0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50
Arsenic		M	2455	mg/kg	0.5
Cadmium		M	2455	mg/kg	0.10
Chromium		M	2455	mg/kg	0.5
Copper		M	2455	mg/kg	0.50
Mercury		M	2455	mg/kg	0.05
Nickel		M	2455	mg/kg	0.50
Lead		M	2455	mg/kg	0.50
Selenium		M	2455	mg/kg	0.25
Zinc		M	2455	mg/kg	0.50
Chromium (Hexavalent)		N	2490	mg/kg	0.50
Organic Matter		M	2625	%	0.40
Total Organic Carbon		M	2625	%	0.20
Total TPH >C6-C40 NC	EH_1D_Total	M	2670	mg/kg	10
Naphthalene		M	2700	mg/kg	0.10
Acenaphthylene		M	2700	mg/kg	0.10
Acenaphthene		M	2700	mg/kg	0.10
Fluorene		M	2700	mg/kg	0.10
Phenanthrene		M	2700	mg/kg	0.10
Anthracene		M	2700	mg/kg	0.10
Fluoranthene		M	2700	mg/kg	0.10
Pyrene		M	2700	mg/kg	0.10

Results - Soil

Project: 129-3008-01 Draytons Garage

Client: Mayer Environmental Ltd		Chemtest Job No.: 24-07256				
Quotation No.: Q24-33611		Chemtest Sample ID.: 1777614				
Order No.: 129-005869		Client Sample Ref.: CELL 4				
		Client Sample ID.: SAMPLE 1A				
		Sample Location: Cell 4				
		Sample Type: SOIL				
		Top Depth (m): 0				
		Bottom Depth (m): 0.4				
		Date Sampled: 06-Mar-2024				
		Time Sampled: 12:00				
		Asbestos Lab:				
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2020	Electrical Conductivity	Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil	Measurement of the electrical resistance of a 2:1 water/soil extract.	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable
- PL - Prepared Leachate
- PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-05134-1

Initial Date of Issue: 28-Feb-2024

Re-Issue Details:

Client Mayer Environmental Ltd

Client Address: Transport Avenue
Brentford
TW8 9HA

Contact(s):

rebecca.beddard@mayer-enviro.com;
landquality@mayer-enviro.com;
monitoring@mayer-enviro.com;
brendan.pittman@mayer-enviro.com

Project 129-003008-01 Drayton Garage
Verification Cells 2 & 4

Quotation No.: **Date Received:** 21-Feb-2024

Order No.: 129005824 **Date Instructed:** 21-Feb-2024

No. of Samples: 12

Turnaround (Wkdays): 5 **Results Due:** 27-Feb-2024

Date Approved: 28-Feb-2024

Approved By:

Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 129-003008-01 Drayton Garage Verification Cells 2 & 4

Client: Mayer Environmental Ltd		Chemtest Job No.:		24-05134	24-05134	24-05134	24-05134	24-05134	24-05134	24-05134	24-05134	24-05134
Quotation No.:		Chemtest Sample ID.:		1769149	1769150	1769151	1769152	1769153	1769154	1769155	1769156	
Order No.: 129005824		Client Sample Ref.:		1	2	3	4	5	6	1	2	
		Client Sample ID.:		SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6	SAMPLE 1	SAMPLE 2	
		Sample Location:		Cell 2	Cell 2	Cell 2	Cell 2	Cell 2	Cell 2	Cell 4	Cell 4	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Date Sampled:		19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024	
		Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
Moisture		N	2030	%	0.020						21	23
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones	Stones and Roots	Stones	Stones and Roots	Stones and Roots	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Lead		M	2455	mg/kg	0.50	95	64	150	76	93	30	36
Total Organic Carbon		M	2625	%	0.20							2.6
Naphthalene		M	2700	mg/kg	0.10							< 0.10
Acenaphthylene		M	2700	mg/kg	0.10							< 0.10
Acenaphthene		M	2700	mg/kg	0.10							< 0.10
Fluorene		M	2700	mg/kg	0.10							< 0.10
Phenanthrene		M	2700	mg/kg	0.10							1.2
Anthracene		M	2700	mg/kg	0.10							0.42
Fluoranthene		M	2700	mg/kg	0.10							2.8
Pyrene		M	2700	mg/kg	0.10							2.8
Benzo[a]anthracene		M	2700	mg/kg	0.10							1.6
Chrysene		M	2700	mg/kg	0.10							1.8
Benzo[b]fluoranthene		M	2700	mg/kg	0.10							2.3
Benzo[k]fluoranthene		M	2700	mg/kg	0.10							1.1
Benzo[a]pyrene		M	2700	mg/kg	0.10							1.7
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10							1.1
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10							0.46
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10							1.3
Total Of 16 PAH's		M	2700	mg/kg	2.0							19

Results - Soil

Project: 129-003008-01 Drayton Garage Verification Cells 2 & 4

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-05134	24-05134	24-05134	24-05134
Quotation No.:		Chemtest Sample ID.:				1769157	1769158	1769159	1769160
Order No.: 129005824		Client Sample Ref.:				3	4	5	6
		Client Sample ID.:				SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6
		Sample Location:				Cell 4	Cell 4	Cell 4	Cell 4
		Sample Type:				SOIL	SOIL	SOIL	SOIL
		Date Sampled:				19-Feb-2024	19-Feb-2024	19-Feb-2024	19-Feb-2024
		Time Sampled:				12:00	12:00	12:00	12:00
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Moisture		N	2030	%	0.020	22	24	23	23
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones and Roots	Stones and Roots	Stones and Roots
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay
Lead		M	2455	mg/kg	0.50	17	23	17	18
Total Organic Carbon		M	2625	%	0.20	1.2	1.0	2.3	2.2
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2700	mg/kg	0.10	0.22	0.28	< 0.10	< 0.10
Pyrene		M	2700	mg/kg	0.10	0.26	0.38	< 0.10	< 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable
- PL - Prepared Leachate
- PW - Processed Water

Report Information

RE - Recreational Water

SA - Saline Water

SW - Surface Water

TE - Treated Effluent

TS - Treated Sewage

UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up

MC - Mathematical Clean Up

FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



2183

Final Report

Report No.: 24-02945-1**Initial Date of Issue:** 14-Feb-2024**Re-Issue Details:****Client** Mayer Environmental Ltd**Client Address:** Transport Avenue
Brentford
TW8 9HA**Contact(s):**

rebecca.beddard@mayer-enviro.com;
landquality@mayer-enviro.com;
monitoring@mayer-enviro.com;
brendan.pittman@mayer-enviro.com**Project** 129-003008 Draytons Garage Validation
Sampling**Quotation No.:** Q24-33611 **Date Received:** 01-Feb-2024**Order No.:** 129005762 **Date Instructed:** 01-Feb-2024**No. of Samples:** 18**Turnaround (Wkdays):** 5 **Results Due:** 07-Feb-2024**Date Approved:** 14-Feb-2024 **Subcon Results Due:** 22-Feb-2024**Approved By:****Details:**
Stuart Henderson, Technical Manager
Nick Watson, Operations Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 129-003008 Draytons Garage Validation Sampling

Client: Mayer Environmental Ltd		Chemtest Job No.:		24-02945	24-02945	24-02945	24-02945	24-02945	24-02945	24-02945	24-02945	24-02945
Quotation No.: Q24-33611		Chemtest Sample ID.:		1760621	1760622	1760623	1760624	1760625	1760626	1760627	1760628	1760628
Order No.: 129005762		Client Sample Ref.:		1	2	3	4	5	6	1	2	
		Client Sample ID.:		SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6	SAMPLE 1	SAMPLE 2	
		Sample Location:		Cell 2	Cell 2	Cell 2	Cell 2	Cell 2	Cell 2	Cell 4	Cell 4	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Date Sampled:		30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	
		Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	
		Asbestos Lab:										
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
ACM Type		U	2192		N/A							
Asbestos Identification		U	2192		N/A							
Moisture		N	2030	%	0.020					22	21	
Lead		U	2455	mg/kg	0.50	140	260	100	140	80	140	96
Naphthalene		U	2700	mg/kg	0.10							< 0.10
Acenaphthylene		U	2700	mg/kg	0.10							< 0.10
Acenaphthene		U	2700	mg/kg	0.10							< 0.10
Fluorene		U	2700	mg/kg	0.10							< 0.10
Phenanthrene		U	2700	mg/kg	0.10							1.2
Anthracene		U	2700	mg/kg	0.10							0.26
Fluoranthene		U	2700	mg/kg	0.10							5.1
Pyrene		U	2700	mg/kg	0.10							5.1
Benzo[a]anthracene		U	2700	mg/kg	0.10							3.4
Chrysene		U	2700	mg/kg	0.10							3.2
Benzo[b]fluoranthene		U	2700	mg/kg	0.10							5.0
Benzo[k]fluoranthene		U	2700	mg/kg	0.10							1.9
Benzo[a]pyrene		U	2700	mg/kg	0.10							4.1
Indeno(1,2,3-c,d)Pyrene		U	2700	mg/kg	0.10							2.7
Dibenz(a,h)Anthracene		U	2700	mg/kg	0.10							0.61
Benzo[g,h,i]perylene		U	2700	mg/kg	0.10							2.8
Total Of 16 PAH's		U	2700	mg/kg	2.0							35

Results - Soil

Project: 129-003008 Draytons Garage Validation Sampling

Client: Mayer Environmental Ltd		Chemtest Job No.:		24-02945	24-02945	24-02945	24-02945	24-02945	24-02945	24-02945	24-02945	24-02945
Quotation No.: Q24-33611		Chemtest Sample ID.:		1760629	1760630	1760631	1760632	1760633	1760634	1760635	1760636	1760636
Order No.: 129005762		Client Sample Ref.:		3	4	5	6	1	2	3	4	4
		Client Sample ID.:		SAMPLE 3	SAMPLE 4	SAMPLE 5	SAMPLE 6	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 4
		Sample Location:		Cell 4	Cell 4	Cell 4	Cell 4	Cell 5	Cell 5	Cell 5	Cell 5	Cell 5
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Date Sampled:		30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024
		Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
		Asbestos Lab:						DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD							
ACM Type		U	2192		N/A				-	-	-	-
Asbestos Identification		U	2192		N/A				No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	21	20	19	21	20	19	20
Lead		U	2455	mg/kg	0.50	46	52	27	19			
Naphthalene		U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		U	2700	mg/kg	0.10	0.93	0.60	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene		U	2700	mg/kg	0.10	0.24	0.26	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		U	2700	mg/kg	0.10	2.2	2.2	0.36	0.46	< 0.10	< 0.10	< 0.10
Pyrene		U	2700	mg/kg	0.10	2.1	2.2	0.64	0.61	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene		U	2700	mg/kg	0.10	1.1	1.4	0.17	0.31	< 0.10	< 0.10	< 0.10
Chrysene		U	2700	mg/kg	0.10	1.2	1.9	0.32	0.51	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		U	2700	mg/kg	0.10	1.7	1.8	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		U	2700	mg/kg	0.10	0.63	0.63	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene		U	2700	mg/kg	0.10	1.2	1.4	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		U	2700	mg/kg	0.10	< 0.10	1.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		U	2700	mg/kg	0.10	< 0.10	0.32	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		U	2700	mg/kg	0.10	< 0.10	1.3	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		U	2700	mg/kg	2.0	11	15	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Results - Soil

Project: 129-003008 Draytons Garage Validation Sampling

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-02945	24-02945
Quotation No.: Q24-33611		Chemtest Sample ID.:				1760637	1760638
Order No.: 129005762		Client Sample Ref.:				5	6
		Client Sample ID.:				SAMPLE 5	SAMPLE 6
		Sample Location:				Cell 5	Cell 5
		Sample Type:				SOIL	SOIL
		Date Sampled:				30-Jan-2024	30-Jan-2024
		Time Sampled:				12:00	12:00
		Asbestos Lab:				DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	18	16
Lead		U	2455	mg/kg	0.50		
Naphthalene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Fluorene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene		U	2700	mg/kg	0.10	< 0.10	0.22
Anthracene		U	2700	mg/kg	0.10	< 0.10	0.11
Fluoranthene		U	2700	mg/kg	0.10	< 0.10	1.0
Pyrene		U	2700	mg/kg	0.10	< 0.10	1.2
Benzo[a]anthracene		U	2700	mg/kg	0.10	< 0.10	0.42
Chrysene		U	2700	mg/kg	0.10	< 0.10	0.55
Benzo[b]fluoranthene		U	2700	mg/kg	0.10	< 0.10	0.60
Benzo[k]fluoranthene		U	2700	mg/kg	0.10	< 0.10	0.20
Benzo[a]pyrene		U	2700	mg/kg	0.10	< 0.10	0.46
Indeno(1,2,3-c,d)Pyrene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		U	2700	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's		U	2700	mg/kg	2.0	< 2.0	4.8

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2020	Electrical Conductivity	Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil	Measurement of the electrical resistance of a 2:1 water/soil extract.	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2115	Total Nitrogen in Soils	Nitrogen	Determination by elemental analyser	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2260	Carbonate	Carbonate	Titration	
2400	Cations	Cations	ICP-MS	
2420	Phosphate	Phosphate	Spectrophotometry - Discrete analyser	
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2620	LOI 440	LOI 440 Trommel Fines	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable
- PL - Prepared Leachate
- PW - Processed Water

Report Information

RE - Recreational Water

SA - Saline Water

SW - Surface Water

TE - Treated Effluent

TS - Treated Sewage

UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up

MC - Mathematical Clean Up

FC - Florisil Clean Up

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Appendix C

Topsoil Supplier Certificate



Amended Report

Report No.:	24-06746-2		
Initial Date of Issue:	20-Mar-2024	Date of Re-Issue:	21-Mar-2024
Re-Issue Details:	This report has been revised and directly supersedes 24-06746-1 in its entirety		
Client	Springbridge Direct Ltd		
Client Address:	Oxford Road Denham Middlesex UB9 4DF		
Contact(s):	Tom Hawkins		
Project	Springbridge Yard		
Quotation No.:	Q24-34078	Date Received:	05-Mar-2024
Order No.:	141444	Date Instructed:	05-Mar-2024
No. of Samples:	2		
Turnaround (Wkdays):	12	Results Due:	20-Mar-2024
Date Approved:	20-Mar-2024	Subcon Results Due:	26-Mar-2024

Approved By:

Details: Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: Springbridge Yard

Client: Springbridge Direct Ltd		Chemtest Job No.:		24-06746		
Quotation No.: Q24-34078		Chemtest Sample ID.:		1775559		
Order No.: 141444		Client Sample Ref.:		TOPSOIL		
		Client Sample ID.:		TOP		
		Sample Type:		SOIL		
		Date Sampled:		29-Feb-2024		
		Time Sampled:		10:30		
		Asbestos Lab:		COVENTRY		
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
ACM Type		U	2192		N/A	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected
Moisture		N	2030	%	0.020	40
Soil Colour		N	2040		N/A	Brown
Other Material		N	2040		N/A	Stones and Roots
Soil Texture		N	2040		N/A	Sand
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	< 0.40
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	3.8
Cadmium		M	2455	mg/kg	0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	11
Copper		M	2455	mg/kg	0.50	20
Mercury		M	2455	mg/kg	0.05	0.06
Nickel		M	2455	mg/kg	0.50	7.3
Lead		M	2455	mg/kg	0.50	32
Selenium		M	2455	mg/kg	0.25	< 0.25
Zinc		M	2455	mg/kg	0.50	63
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50

Results - Soil

Project: Springbridge Yard

Client: Springbridge Direct Ltd		Chemtest Job No.:		24-06746		
Quotation No.: Q24-34078		Chemtest Sample ID.:		1775559		
Order No.: 141444		Client Sample Ref.:		TOPSOIL		
		Client Sample ID.:		TOP		
		Sample Type:		SOIL		
		Date Sampled:		29-Feb-2024		
		Time Sampled:		10:30		
		Asbestos Lab:		COVENTRY		
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_2D_AL_#1	M	2690	mg/kg	2.00	5.5
Aliphatic EPH >C12-C16 MC	EH_2D_AL_#1	M	2690	mg/kg	1.00	< 1.0
Aliphatic EPH >C16-C21 MC	EH_2D_AL_#1	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C21-C35 MC	EH_2D_AL_#1	M	2690	mg/kg	3.00	13
Aliphatic EPH >C35-C40 MC	EH_2D_AL_#1	N	2690	mg/kg	10.00	14
Total Aliphatic EPH >C10-C35 MC	EH_2D_AL_#1	M	2690	mg/kg	5.00	19
Total Aliphatic EPH >C10-C40 MC	EH_2D_AL_#1	N	2690	mg/kg	10.00	32
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0

Results - Soil

Project: Springbridge Yard

Client: Springbridge Direct Ltd		Chemtest Job No.:		24-06746		
Quotation No.: Q24-34078		Chemtest Sample ID.:		1775559		
Order No.: 141444		Client Sample Ref.:		TOPSOIL		
		Client Sample ID.:		TOP		
		Sample Type:		SOIL		
		Date Sampled:		29-Feb-2024		
		Time Sampled:		10:30		
		Asbestos Lab:		COVENTRY		
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Aromatic EPH >C12-C16 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C16-C21 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00	9.7
Aromatic EPH >C21-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00	2.8
Aromatic EPH >C35-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	1.00	10
Total Aromatic EPH >C10-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	5.00	12
Total Aromatic EPH >C10-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	10.00	23
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50
Total EPH >C10-C35 MC	EH_2D_Total_#1	U	2690	mg/kg	10.00	31
Total EPH >C10-C40 MC	EH_2D_Total_#1	N	2690	mg/kg	10.00	55
Benzene		M	2760	µg/kg	1.0	< 1.0
Toluene		M	2760	µg/kg	1.0	< 1.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0
Naphthalene		M	2800	mg/kg	0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10

Results - Soil

Project: Springbridge Yard

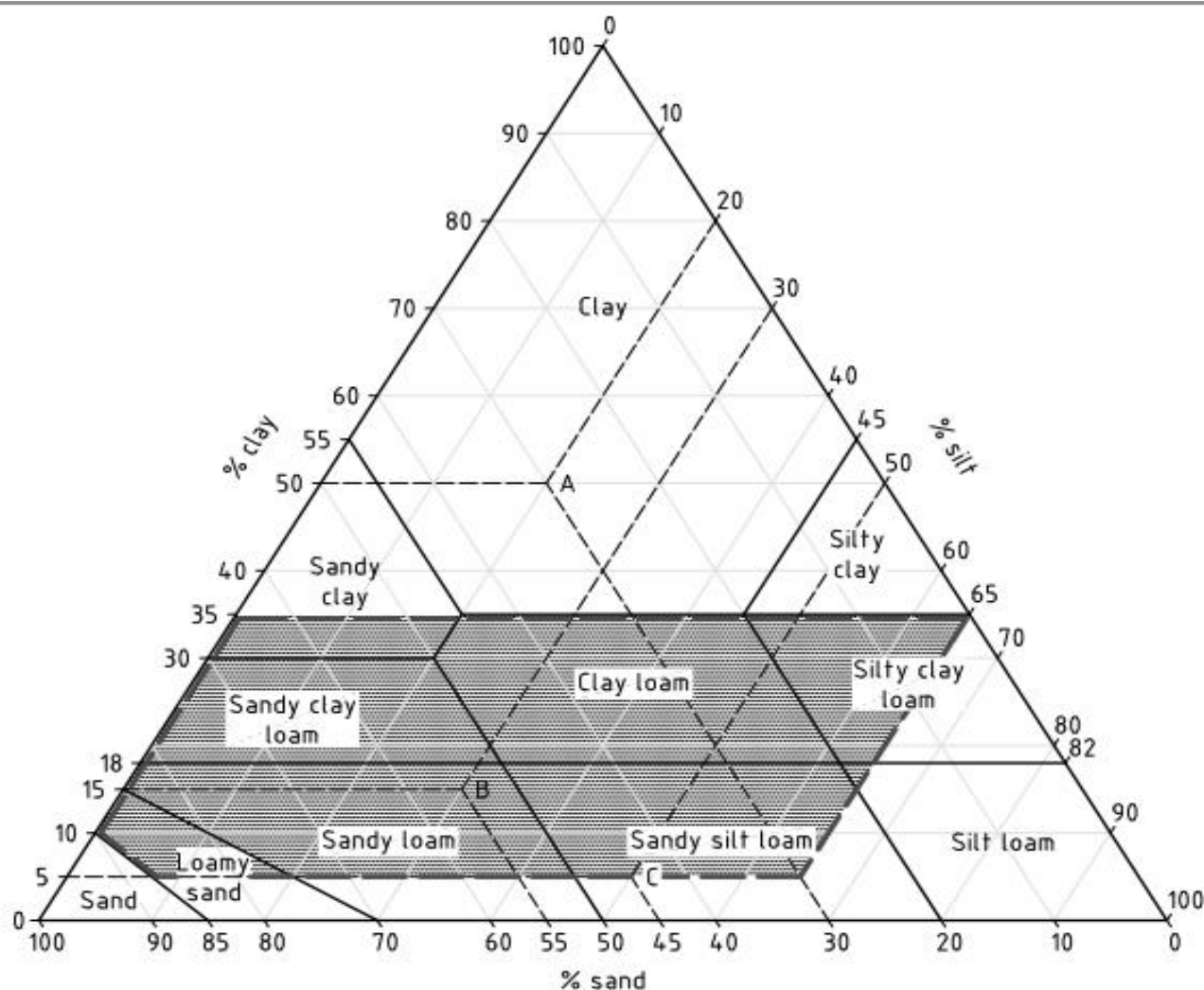
Client: Springbridge Direct Ltd		Chemtest Job No.:		24-06746		
Quotation No.: Q24-34078		Chemtest Sample ID.:		1775559		
Order No.: 141444		Client Sample Ref.:		TOPSOIL		
		Client Sample ID.:		TOP		
		Sample Type:		SOIL		
		Date Sampled:		29-Feb-2024		
		Time Sampled:		10:30		
		Asbestos Lab:		COVENTRY		
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
Phenanthrene		M	2800	mg/kg	0.10	1.1
Anthracene		M	2800	mg/kg	0.10	0.24
Fluoranthene		M	2800	mg/kg	0.10	1.5
Pyrene		M	2800	mg/kg	0.10	1.2
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.63
Chrysene		M	2800	mg/kg	0.10	0.55
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.87
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	0.35
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.62
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.50
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.51
Total Of 16 PAH's		N	2800	mg/kg	2.0	8.1
Total Phenols		M	2920	mg/kg	0.10	0.18

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-06746
 Chemtest Sample ID.: 1775559
 Client Sample Ref.: TOPSOIL
 Sample Location:
 Client Sample ID.: TOP
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled: 29-Feb-2024
 Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		6.0				
Silt content (Sub Contracted)	%		22				
Sand content (Sub Contracted)	%		72				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	15	YES	NO	YES	NO
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	18	YES			
>20mm (Sub Contracted)		0-10	< 0.10	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	8.5	YES	NO	YES	YES
Carbonate (Calcareous only)	%		< 0.10				NO
Electrical Conductivity	µS/cm	If >3300 do ESP	1800	YES			
Available Nutrient Content							
Nitrogen %		>0.15	0.67	YES	YES		YES
Extractable phosphorus	mg/l	16-140	78	YES	YES	NO	YES
Extractable potassium	mg/l	121-1500	1350	YES	NO		NO
Extractable magnesium	mg/l	51-600	280	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	12.9/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	4.1				
Available Calcium	mg/l		720				
Available Sodium	mg/l		300				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0			
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	46	YES	
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	15	YES	
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	5.0	YES	
Visible Contaminants	% mm						
>2mm		<0.5	0.000	YES			
..... of which plastics		<0.25	0.000	YES			
..... man-made sharps		zero in 1kg	0.000	YES			

Texture Classification Chart**Key**

Area within which the texture of topsoil is required to fall

NOTE Examples of textural classification are as follows.

- Soil A with 30% sand, 20% silt and 50% clay is in the "clay" textural class.
- Soil B with 55% sand, 30% silt and 15% clay is in the "sandy loam" textural class.
- Soil C with 45% sand, 50% silt and 5% clay is in the "sandy silt loam" textural class.

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Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2020	Electrical Conductivity	Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil	Measurement of the electrical resistance of a 2:1 water/soil extract.	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2115	Total Nitrogen in Soils	Nitrogen	Determination by elemental analyser	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2260	Carbonate	Carbonate	Titration	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2400	Cations	Cations	ICP-MS	
2420	Phosphate	Phosphate	Spectrophotometry - Discrete analyser	
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.	
2620	LOI 440	LOI 440 Trommel Fines	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C40	Acetone/Heptane extraction / GCxGC FID detection	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water

GW - Ground Water

LE - Land Leachate

NA - Not Applicable

PL - Prepared Leachate

PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Rebecca Beddard

From: reis grab <reisgrab@yahoo.com>
Sent: 11 June 2024 13:40
To: Sandy Sutherland; Robert Davis
Subject: Fwd: Drayton's Garage - Topsoil

Hi Sandy,

Please find attached Supplier response.

Kind regards

Nicolas Rotaru

Reis Grab Hire Ltd

From: Springbridge Sales <sales@springbridge.co.uk>
Sent: Tuesday, June 11, 2024 13:35
To: reis grab <reisgrab@yahoo.com>
Subject: RE: Drayton's Garage - Topsoil

Good Afternoon,

Thank you for getting in touch, feedback is important to us and will be taken on board when reviewing and improving our internal processes.

The levels of potassium and the other nutrients will decrease very quickly with some rain or watering of the plants. We mix compost into our topsoil to give the soil nutrients for growing and in this particular instance the potassium is slightly higher than expected. As soon as you plant something in it the plant will use up some of this potassium and in time you will need to replenish it again adding in more compost.

If you want the topsoil to be less nutrient rich you can water the area hard with the hose and it will wash out much of the nutrients and bring it down a bit but these levels will do no harm to most planting schemes the way they are and mean you shouldn't need to add more compost for a good while.

Any issues, please let us know.

Kind regards

Customer Services



Springbridge Direct Ltd

Head office

Building 1, Chalfont Park

Chalfont Business Park

SL9 0BG

Registered in England No

6887696

Denham Yard

Oxford Road (A40)

Denham

UB9 4DF

Tel: 0333 456 1919

VAT No. 115 1497 32





Review us at Trustpilot



From: reis grab <reisgrab@yahoo.com>
Sent: Tuesday, June 11, 2024 12:44 PM
To: Springbridge Sales <sales@springbridge.co.uk>
Subject: Fwd: Drayton's Garage - Topsoil
Hi,

Can you please send me your opinion on this email I have received from a costumer that we have delivered Multipurpose top soil from you.

Kind regards
Nicolas Rotaru
Reis Grab Hire Ltd

From: Sandy Sutherland <ssutherland@nfchomes.co.uk>
Sent: Thursday, May 30, 2024 12:05
To: reis grab <reisgrab@yahoo.com>
Cc: Robert Davis <rdavis@nfchomes.co.uk>
Subject: Drayton's Garage - Topsoil
Dear Nicolas,
We have had BS3882 topsoil delivered to Drayton's Garage recently.

Unfortunately when it has been tested it doesn't fully comply with BS3882. Please see below comments from the contaminated land consultant and associated attachment:

With regard to the BS3882 topsoil spec, the samples have been shown to have levels of potassium higher than the range specified within the BS3882. Whilst this is unlikely to have a significant impact on planting, particularly if it is mainly grassed areas, the topsoil has been sold as compliant with BS3882 and our testing to date shows that it isn't.

Can we have your comments please?
Kind regards,

Sandy
Sandy Sutherland
Director



NFC Homes, 78, Pall Mall, London, SW1Y 5ES.
Direct Line: 020 3170 5851
Main Line: 020 3709 8000
Mobile: 07908 701 683

www.nfchomes.co.uk



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Appendix D

Laboratory Test Certificates – Imported Topsoil



Final Report

Report No.: 24-12711-1

Initial Date of Issue: 16-May-2024

Re-Issue Details:

Client Mayer Environmental Ltd

Client Address: Transport Avenue
Brentford
TW8 9HA

Contact(s): Monitoring
Rebecca Beddard

Project 129-003008-002 Draytons Garage -
Topsoil

Quotation No.: Q24-33611

Date Received: 24-Apr-2024

Order No.: 129005972

Date Instructed: 24-Apr-2024

No. of Samples: 4

Turnaround (Wkdays): 5

Results Due: 30-Apr-2024

Date Approved: 16-May-2024

Subcon Results Due: 16-May-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 129-003008-002 Draytons Garage - Topsoil

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-12711	24-12711	24-12711	24-12711
Quotation No.: Q24-33611		Chemtest Sample ID.:				1798027	1798028	1798029	1798030
Order No.: 129005972		Client Sample Ref.:				Plot 2	Plot 8	Plot 9	Plot 10
		Sample Type:				SOIL	SOIL	SOIL	SOIL
		Date Sampled:				17-Apr-2024	17-Apr-2024	18-Apr-2024	18-Apr-2024
		Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
ACM Type		U	2192		N/A	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	27	19	29	25
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones and Roots	Stones and Roots	Stones, Roots and Wood
Soil Texture		N	2040		N/A	Loam	Loam	Loam	Loam
pH at 20C		M	2010		4.0	8.0	7.7	8.0	7.9
Electrical Conductivity (2:1)		N	2020	µS/cm	1.0	4800	3400	4800	4700
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	3.0	3.8	0.99	3.6
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.46	1.5	0.12	0.51
Total Sulphur		U	2175	%	0.010	0.18	1.9	0.17	0.14
Cyanide (Total)		M	2300	mg/kg	0.50	0.50	< 0.50	0.70	0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	4.9	12	6.7	6.8
Arsenic		M	2455	mg/kg	0.5	2.1	7.7	3.6	2.9
Cadmium		M	2455	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	4.2	17	7.9	7.3
Copper		M	2455	mg/kg	0.50	12	31	21	20
Mercury		M	2455	mg/kg	0.05	< 0.05	0.14	0.06	0.05
Nickel		M	2455	mg/kg	0.50	3.2	12	6.5	5.0
Lead		M	2455	mg/kg	0.50	19	110	37	30
Selenium		M	2455	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zinc		M	2455	mg/kg	0.50	33	120	67	58
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_2D_AL #1	M	2690	mg/kg	2.00	3.5	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_2D_AL #1	M	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_2D_AL #1	M	2690	mg/kg	2.00	11	11	3.5	11
Aliphatic EPH >C21-C35 MC	EH_2D_AL #1	M	2690	mg/kg	3.00	70	100	26	92
Aliphatic EPH >C35-C40 MC	EH_2D_AL #1	N	2690	mg/kg	10.00	28	36	< 10	30
Total Aliphatic EPH >C10-C35 MC	EH_2D_AL #1	M	2690	mg/kg	5.00	84	110	32	100
Total Aliphatic EPH >C10-C40 MC	EH_2D_AL #1	N	2690	mg/kg	10.00	110	150	32	140
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05

Results - Soil

Project: 129-003008-002 Draytons Garage - Topsoil

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-12711	24-12711	24-12711	24-12711
Quotation No.: Q24-33611		Chemtest Sample ID.:				1798027	1798028	1798029	1798030
Order No.: 129005972		Client Sample Ref.:				Plot 2	Plot 8	Plot 9	Plot 10
		Sample Type:				SOIL	SOIL	SOIL	SOIL
		Date Sampled:				17-Apr-2024	17-Apr-2024	18-Apr-2024	18-Apr-2024
		Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	HWOL Code	Accred.	SOP	Units	LOD				
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00	< 1.0	1.7	< 1.0	1.8
Aromatic EPH >C12-C16 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00	1.5	2.3	2.0	2.5
Aromatic EPH >C16-C21 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00	15	21	17	21
Aromatic EPH >C21-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00	370	410	31	340
Aromatic EPH >C35-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	1.00	44	45	28	51
Total Aromatic EPH >C10-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	5.00	380	430	51	370
Total Aromatic EPH >C10-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	10.00	430	480	79	420
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_2D_Total_#1	U	2690	mg/kg	10.00	470	540	83	470
Total EPH >C10-C40 MC	EH_2D_Total_#1	N	2690	mg/kg	10.00	540	630	110	550
Organic Matter		M	2625	%	0.40	12	8.0	13	16
Naphthalene		M	2700	mg/kg	0.10	< 0.10	0.17	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	0.54	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	0.11	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	0.52	0.66	1.2	0.76
Anthracene		M	2700	mg/kg	0.10	0.10	0.14	0.18	0.17
Fluoranthene		M	2700	mg/kg	0.10	1.1	1.1	1.4	1.8
Pyrene		M	2700	mg/kg	0.10	1.4	1.2	0.97	1.4
Benzo[a]anthracene		M	2700	mg/kg	0.10	0.63	0.73	0.75	0.70
Chrysene		M	2700	mg/kg	0.10	1.2	1.8	1.1	1.4
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10	2.3	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10	0.36	< 0.10	< 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10	0.73	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	1.5	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	0.25	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	0.99	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	5.0	13	5.6	6.2
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Phenols		M	2920	mg/kg	0.10	0.10	< 0.10	< 0.10	0.10

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-12711
Chemtest Sample ID.: 1798027
Client Sample Ref.: Plot 2
Sample Location:
Client Sample ID.:
Top Depth (m):
Bottom Depth (m):
Date Sampled: 17-Apr-2024
Time Sampled:

Parameter	Units	Multipurpose Range			Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture							Acid	Low F	Calc.
Clay content (Sub Contracted)	%				11				
Silt content (Sub Contracted)	%				20				
Sand content (Sub Contracted)	%				69				
Soil texture class		See Attached Chart			Sandy Loam	YES			
Mass Loss on Ignition									
Clay 5-20%		3.0-20			17	YES	YES	YES	YES
Clay 20-35%		5.0-20							
Stone Content	% m/m								
>2mm (Sub Contracted)		0-30			18	YES			
>20mm (Sub Contracted)		0-10			< 0.10	YES			
>50mm (Sub Contracted)		0			< 0.10	YES			
Soil pH value		5.5-8.5			8.0	YES	NO	YES	YES
Carbonate (Calcareous only)	%				4.2				YES
Electrical Conductivity	µS/cm	If >3300 do ESP			2000	YES			
Available Nutrient Content									
Nitrogen %		>0.15			0.71	YES	YES		YES
Extractable phosphorus	mg/l	16-140			140	YES	YES	NO	YES
Extractable potassium	mg/l	121-1500			2800	NO	NO		NO
Extractable magnesium	mg/l	51-600			280	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1			13.9/1	YES	YES	YES	YES
Exchangeable sodium	%	<15			7.9				
Available Calcium	mg/l				630				
Available Sodium	mg/l				500				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	71	YES			
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	10	YES			
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	15	YES			
Visible Contaminants	% mm								
>2mm		<0.5			0.000	YES			
..... of which plastics		<0.25			0.000	YES			
..... man-made sharps		zero in 1kg			0.000	YES			

Chemtest Job No.: 24-12711
Chemtest Sample ID.: 1798028
Client Sample Ref.: Plot 8
Sample Location:
Client Sample ID.:
Top Depth (m):
Bottom Depth (m):
Date Sampled: 17-Apr-2024
Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		10				
Silt content (Sub Contracted)	%		16				
Sand content (Sub Contracted)	%		73				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	6.5	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	18	YES			
>20mm (Sub Contracted)		0-10	< 0.10	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	7.7	YES	NO	YES	YES
Carbonate (Calcareous only)	%		3.6				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	2400	YES			
Available Nutrient Content							
Nitrogen %		>0.15	0.67	YES	YES		YES
Extractable phosphorus	mg/l	16-140	150	NO	NO	NO	NO
Extractable potassium	mg/l	121-1500	3200	NO	NO		NO
Extractable magnesium	mg/l	51-600	330	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	5.7/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	9.5				
Available Calcium	mg/l		560				
Available Sodium	mg/l		600				
Phytotoxic Contaminants (by soil pH)		< 6.06.0-7.0> 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200<200<300	26	YES			
Copper (Nitric Acid extract)	mg/kg	<100<135<200	< 5.0	YES			
Nickel (Nitric Acid extract)	mg/kg	<60<75<110	< 5.0	YES			
Visible Contaminants	% mm						
>2mm		<0.5	0.000	YES			
..... of which plastics		<0.25	0.000	YES			
..... man-made sharps		zero in 1kg	0.000	YES			

Chemtest Job No.: 24-12711
Chemtest Sample ID.: 1798029
Client Sample Ref.: Plot 9
Sample Location:
Client Sample ID.:
Top Depth (m):
Bottom Depth (m):
Date Sampled: 18-Apr-2024
Time Sampled:

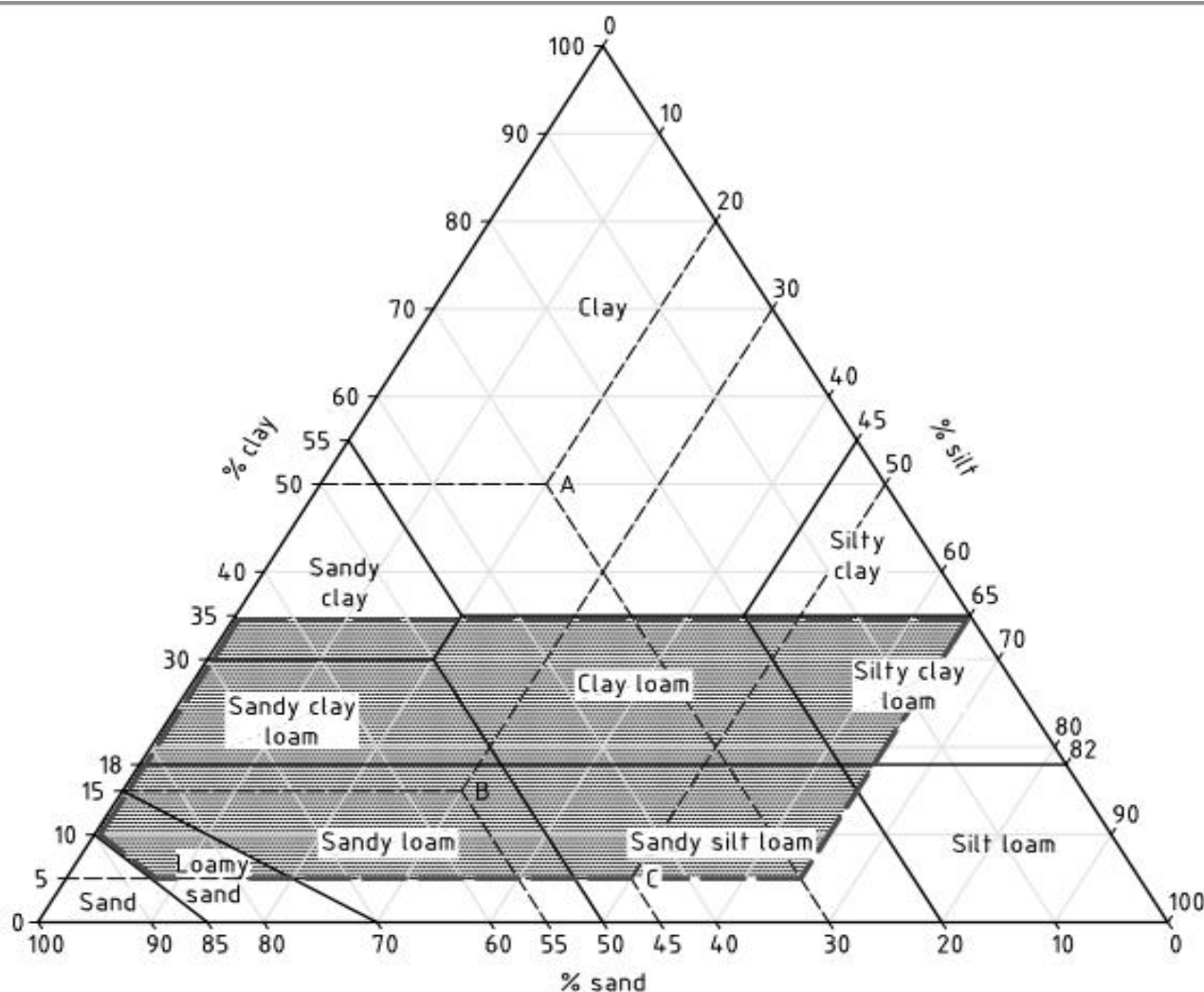
Parameter	Units	Multipurpose Range			Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture							Acid	Low F	Calc.
Clay content (Sub Contracted)	%				13				
Silt content (Sub Contracted)	%				23				
Sand content (Sub Contracted)	%				64				
Soil texture class		See Attached Chart			Sandy Loam	YES			
Mass Loss on Ignition									
Clay 5-20%		3.0-20			19	YES	YES	YES	YES
Clay 20-35%		5.0-20							
Stone Content	% m/m								
>2mm (Sub Contracted)		0-30			20	YES			
>20mm (Sub Contracted)		0-10			< 0.10	YES			
>50mm (Sub Contracted)		0			< 0.10	YES			
Soil pH value		5.5-8.5			8.0	YES	NO	YES	YES
Carbonate (Calcareous only)	%				1.2				YES
Electrical Conductivity	µS/cm	If >3300 do ESP			1900	YES			
Available Nutrient Content									
Nitrogen %		>0.15			0.43	YES	YES		YES
Extractable phosphorus	mg/l	16-140			I/S	NO	NO	NO	NO
Extractable potassium	mg/l	121-1500			I/S	NO	NO		NO
Extractable magnesium	mg/l	51-600			I/S	NO	NO		NO
Carbon : Nitrogen Ratio		<20:1			25.7/1	NO	NO	YES	NO
Exchangeable sodium	%	<15			I/S				
Available Calcium	mg/l				I/S				
Available Sodium	mg/l				I/S				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	76	YES			
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	9.3	YES			
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	10	YES			
Visible Contaminants	% mm								
>2mm		<0.5			0.000	YES			
..... of which plastics		<0.25			0.000	YES			
..... man-made sharps		zero in 1kg			0.000	YES			

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-12711
Chemtest Sample ID.: 1798030
Client Sample Ref.: Plot 10
Sample Location:
Client Sample ID.:
Top Depth (m):
Bottom Depth (m):
Date Sampled: 18-Apr-2024
Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		3.8				
Silt content (Sub Contracted)	%		26				
Sand content (Sub Contracted)	%		71				
Soil texture class		See Attached Chart	Sandy Loam	NO			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	16	NO	NO	YES	NO
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	19	YES			
>20mm (Sub Contracted)		0-10	< 0.10	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	7.9	YES	NO	YES	YES
Carbonate (Calcareous only)	%		< 0.10				NO
Electrical Conductivity	µS/cm	If >3300 do ESP	3100	YES			
Available Nutrient Content							
Nitrogen %		>0.15	1.4	YES	YES		YES
Extractable phosphorus	mg/l	16-140	140	YES	YES	NO	YES
Extractable potassium	mg/l	121-1500	3100	NO	NO		NO
Extractable magnesium	mg/l	51-600	330	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	6.8/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	9.1				
Available Calcium	mg/l		540				
Available Sodium	mg/l		550				
Phytotoxic Contaminants (by soil pH)		< 6.06.0-7.0> 7.0					
Zinc (Nitric Acid extract)	mg/kg	<200<200<300	32	YES			
Copper (Nitric Acid extract)	mg/kg	<100<135<200	5.2	YES			
Nickel (Nitric Acid extract)	mg/kg	<60<75<110	6.1	YES			
Visible Contaminants	% mm						
>2mm		<0.5	0.000	YES			
..... of which plastics		<0.25	0.000	YES			
..... man-made sharps		zero in 1kg	0.000	YES			

Texture Classification Chart**Key**

Area within which the texture of topsoil is required to fall

NOTE Examples of textural classification are as follows.

- Soil A with 30% sand, 20% silt and 50% clay is in the "clay" textural class.
- Soil B with 55% sand, 30% silt and 15% clay is in the "sandy loam" textural class.
- Soil C with 45% sand, 50% silt and 5% clay is in the "sandy silt loam" textural class.

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Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2020	Electrical Conductivity	Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil	Measurement of the electrical resistance of a 2:1 water/soil extract.	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2115	Total Nitrogen in Soils	Nitrogen	Determination by elemental analyser	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2260	Carbonate	Carbonate	Titration	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2400	Cations	Cations	ICP-MS	
2420	Phosphate	Phosphate	Spectrophotometry - Discrete analyser	
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2620	LOI 440	LOI 440 Trommel Fines	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-14378-1

Initial Date of Issue: 23-May-2024

Re-Issue Details:

Client Mayer Environmental Ltd

Client Address: Transport Avenue
Brentford
TW8 9HA

Contact(s): Rebecca Beddard
Monitoring

Project 129-003008-002 Draytons Garage -
Topsoil

Quotation No.: Q24-33611

Date Received: 07-May-2024

Order No.: 129006004

Date Instructed: 07-May-2024

No. of Samples: 3

Turnaround (Wkdays): 13

Results Due: 23-May-2024

Date Approved: 23-May-2024

Subcon Results Due: 29-May-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 129-003008-002 Draytons Garage - Topsoil

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-14378	24-14378	24-14378
Quotation No.: Q24-33611		Chemtest Sample ID.:				1804076	1804077	1804078
Order No.: 129006004		Client Sample Ref.:				Plot 3	Plot 5	Plot 6
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				02-May-2024	02-May-2024	02-May-2024
		Asbestos Lab:				DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
ACM Type		U	2192		N/A	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	16	19	20
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones	Stones and Roots
Soil Texture		N	2040		N/A	Loam	Loam	Loam
pH at 20C		M	2010		4.0	7.7	7.7	7.6
Electrical Conductivity (2:1)		N	2020	µS/cm	1.0	4300	3700	4100
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.83	1.1	1.1
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.10	0.12	0.14
Total Sulphur		U	2175	%	0.010	0.11	0.095	0.11
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)		N	2325	mg/kg	0.50	12	11	46
Arsenic		M	2455	mg/kg	0.5	4.4	4.6	3.7
Cadmium		M	2455	mg/kg	0.10	0.12	< 0.10	< 0.10
Chromium		M	2455	mg/kg	0.5	11	12	10
Copper		M	2455	mg/kg	0.50	26	25	16
Mercury		M	2455	mg/kg	0.05	0.07	0.07	0.05
Nickel		M	2455	mg/kg	0.50	8.2	9.1	9.6
Lead		M	2455	mg/kg	0.50	43	35	26
Selenium		M	2455	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Zinc		M	2455	mg/kg	0.50	72	63	47
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_2D_AL_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_2D_AL_#1	M	2690	mg/kg	1.00	< 1.0	1.5	< 1.0
Aliphatic EPH >C16-C21 MC	EH_2D_AL_#1	M	2690	mg/kg	2.00	9.7	19	11
Aliphatic EPH >C21-C35 MC	EH_2D_AL_#1	M	2690	mg/kg	3.00	42	100	70
Aliphatic EPH >C35-C40 MC	EH_2D_AL_#1	N	2690	mg/kg	10.00	< 10	12	15
Total Aliphatic EPH >C10-C35 MC	EH_2D_AL_#1	M	2690	mg/kg	5.00	51	120	83
Total Aliphatic EPH >C10-C40 MC	EH_2D_AL_#1	N	2690	mg/kg	10.00	51	130	98
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05

Results - Soil

Project: 129-003008-002 Draytons Garage - Topsoil

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-14378	24-14378	24-14378
Quotation No.: Q24-33611		Chemtest Sample ID.:				1804076	1804077	1804078
Order No.: 129006004		Client Sample Ref.:				Plot 3	Plot 5	Plot 6
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				02-May-2024	02-May-2024	02-May-2024
		Asbestos Lab:				DURHAM	DURHAM	DURHAM
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00	1.2	1.7	3.0
Aromatic EPH >C12-C16 MC	EH_2D_AR_#1	U	2690	mg/kg	1.00	2.7	5.1	7.5
Aromatic EPH >C16-C21 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00	21	58	62
Aromatic EPH >C21-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	2.00	2.4	5.4	< 2.0
Aromatic EPH >C35-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	1.00	22	54	42
Total Aromatic EPH >C10-C35 MC	EH_2D_AR_#1	U	2690	mg/kg	5.00	27	71	74
Total Aromatic EPH >C10-C40 MC	EH_2D_AR_#1	N	2690	mg/kg	10.00	49	120	120
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 MC	EH_2D_Total_#1	U	2690	mg/kg	10.00	78	190	160
Total EPH >C10-C40 MC	EH_2D_Total_#1	N	2690	mg/kg	10.00	100	260	210
Organic Matter		M	2625	%	0.40	11	13	9.0
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	0.86	0.87	0.61
Anthracene		M	2700	mg/kg	0.10	0.64	0.47	0.31
Fluoranthene		M	2700	mg/kg	0.10	0.74	0.96	0.62
Pyrene		M	2700	mg/kg	0.10	1.3	1.7	0.99
Benzo[a]anthracene		M	2700	mg/kg	0.10	1.1	0.84	0.79
Chrysene		M	2700	mg/kg	0.10	0.77	0.93	0.71
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	0.38	0.69	0.32
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	0.83	1.4	1.0
Benzo[a]pyrene		M	2700	mg/kg	0.10	0.32	0.33	0.18
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	0.98	0.65	0.53
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	1.2	0.38	0.19
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	1.2	1.0	0.73
Total Of 16 PAH's		M	2700	mg/kg	2.0	10	10	7.0
Benzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Toluene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
o-Xylene		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-14378
 Chemtest Sample ID.: 1804076
 Client Sample Ref.: Plot 3
 Sample Location:
 Client Sample ID.:
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled: 02-May-2024
 Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		8.2				
Silt content (Sub Contracted)	%		13				
Sand content (Sub Contracted)	%		79				
Soil texture class		See Attached Chart	Loamy Sand	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	9.3	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	11	YES			
>20mm (Sub Contracted)		0-10	< 0.10	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	7.7	YES	NO	YES	YES
Carbonate (Calcareous only)	%		1.8				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	4600	NO			
Available Nutrient Content							
Nitrogen %		>0.15	0.96	YES	YES		YES
Extractable phosphorus	mg/l	16-140	280	NO	NO	NO	NO
Extractable potassium	mg/l	121-1500	3300	NO	NO		NO
Extractable magnesium	mg/l	51-600	330	YES	YES		YES
Carbon : Nitrogen Ratio		<20:1	5.7/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	11				
Available Calcium	mg/l		410				
Available Sodium	mg/l		600				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0			
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	65	YES	
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	22	YES	
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	8.5	YES	
Visible Contaminants	% mm						
>2mm		<0.5		0.000	YES		
..... of which plastics		<0.25		0.000	YES		
..... man-made sharps		zero in 1kg		0.000	YES		

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-14378
 Chemtest Sample ID.: 1804077
 Client Sample Ref.: Plot 5
 Sample Location:
 Client Sample ID.:
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled: 02-May-2024
 Time Sampled:

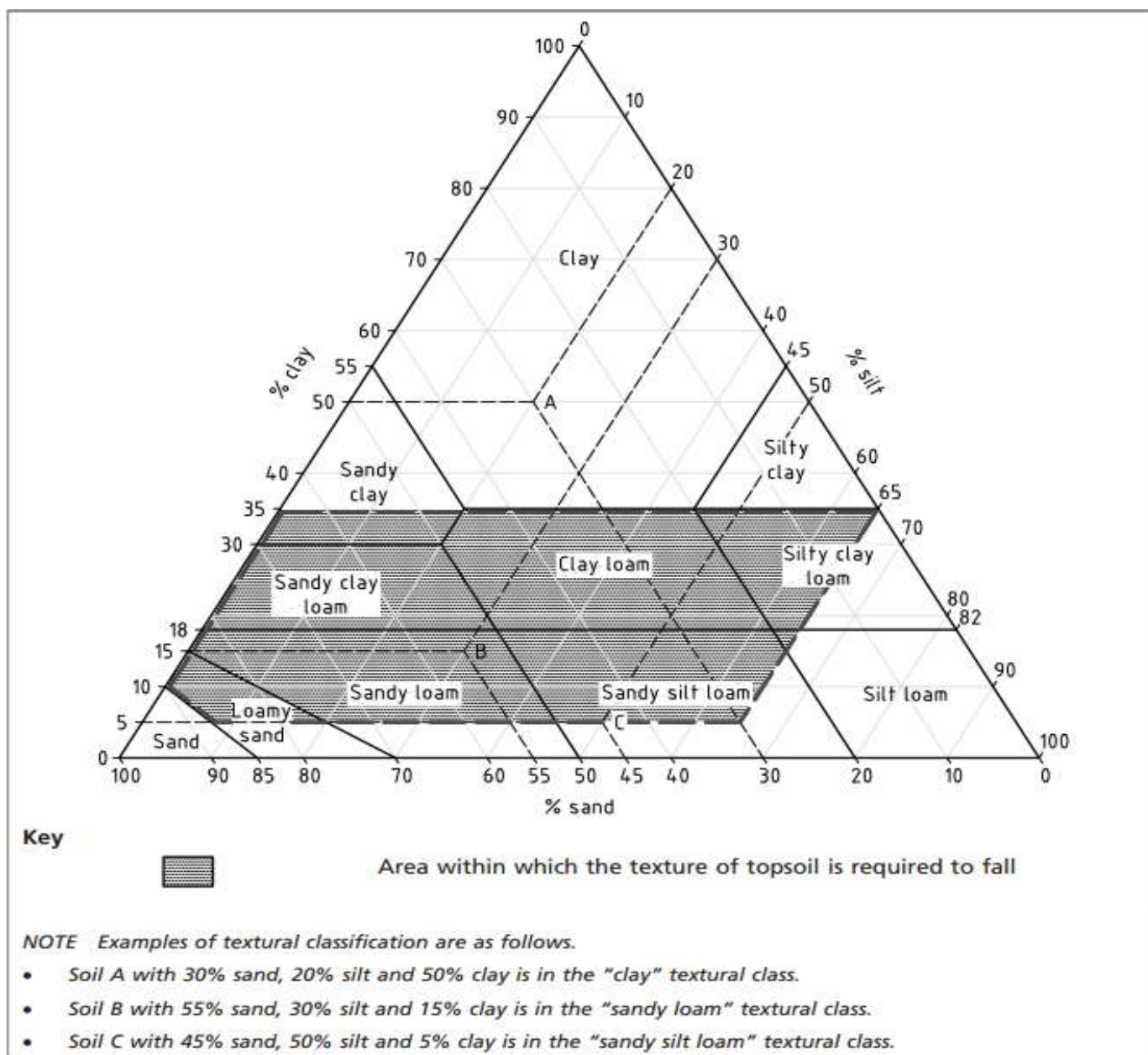
Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		8.4				
Silt content (Sub Contracted)	%		14				
Sand content (Sub Contracted)	%		78				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	11	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	13	YES			
>20mm (Sub Contracted)		0-10	< 0.10	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	7.7	YES	NO	YES	YES
Carbonate (Calcareous only)	%		4.8				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	4900	NO			
Available Nutrient Content							
Nitrogen %		>0.15	0.76	YES	YES		YES
Extractable phosphorus	mg/l	16-140	320	NO	NO	NO	NO
Extractable potassium	mg/l	121-1500	67	NO	NO		NO
Extractable magnesium	mg/l	51-600	3900	NO	NO		NO
Carbon : Nitrogen Ratio		<20:1	8.4/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	3.0				
Available Calcium	mg/l		< 20				
Available Sodium	mg/l		220				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0			
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	57	YES	
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	23	YES	
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	8.9	YES	
Visible Contaminants	% mm						
>2mm		<0.5	0.000	YES			
..... of which plastics		<0.25	0.000	YES			
..... man-made sharps		zero in 1kg	0.000	YES			

Results - Topsoil Report

BS3882:2015

Chemtest Job No.: 24-14378
 Chemtest Sample ID.: 1804078
 Client Sample Ref.: Plot 6
 Sample Location:
 Client Sample ID.:
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled: 02-May-2024
 Time Sampled:

Parameter	Units	Multipurpose Range	Result	Compliant with Multipurpose Range? (Y/N)	Compliant with Specific Purpose Range? (Y/N)		
Texture					Acid	Low F	Calc.
Clay content (Sub Contracted)	%		7.7				
Silt content (Sub Contracted)	%		15				
Sand content (Sub Contracted)	%		78				
Soil texture class		See Attached Chart	Sandy Loam	YES			
Mass Loss on Ignition							
Clay 5-20%		3.0-20	8.0	YES	YES	YES	YES
Clay 20-35%		5.0-20					
Stone Content	% m/m						
>2mm (Sub Contracted)		0-30	12	YES			
>20mm (Sub Contracted)		0-10	< 0.10	YES			
>50mm (Sub Contracted)		0	< 0.10	YES			
Soil pH value		5.5-8.5	7.6	YES	NO	YES	YES
Carbonate (Calcareous only)	%		2.4				YES
Electrical Conductivity	µS/cm	If >3300 do ESP	5800	NO			
Available Nutrient Content							
Nitrogen %		>0.15	0.71	YES	YES		YES
Extractable phosphorus	mg/l	16-140	7.8	NO	NO	YES	NO
Extractable potassium	mg/l	121-1500	62	NO	NO		NO
Extractable magnesium	mg/l	51-600	5200	NO	NO		NO
Carbon : Nitrogen Ratio		<20:1	6.6/1	YES	YES	YES	YES
Exchangeable sodium	%	<15	2.3				
Available Calcium	mg/l		< 20				
Available Sodium	mg/l		220				
Phytotoxic Contaminants (by soil pH)		< 6.0	6.0-7.0	> 7.0			
Zinc (Nitric Acid extract)	mg/kg	<200	<200	<300	55	YES	
Copper (Nitric Acid extract)	mg/kg	<100	<135	<200	25	YES	
Nickel (Nitric Acid extract)	mg/kg	<60	<75	<110	8.8	YES	
Visible Contaminants	% mm						
>2mm		<0.5		0.000	YES		
..... of which plastics		<0.25		0.000	YES		
..... man-made sharps		zero in 1kg		0.000	YES		

Texture Classification Chart

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Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2020	Electrical Conductivity	Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil	Measurement of the electrical resistance of a 2:1 water/soil extract.	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2115	Total Nitrogen in Soils	Nitrogen	Determination by elemental analyser	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2260	Carbonate	Carbonate	Titration	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.	
2400	Cations	Cations	ICP-MS	
2420	Phosphate	Phosphate	Spectrophotometry - Discrete analyser	
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2620	LOI 440	LOI 440 Trommel Fines	Determination of the proportion by mass that is lost from a soil by ignition at 440°C.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

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Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

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Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-17063-1

Initial Date of Issue: 03-Jun-2024

Re-Issue Details:

Client Mayer Environmental Ltd

Client Address: Transport Avenue
Brentford
TW8 9HA

Contact(s): Monitoring
Rebecca Beddard

Project 129-003008-002 Draytons Garage -
Topsoil

Quotation No.: Q24-33611 **Date Received:** 30-May-2024

Order No.: 129006057 **Date Instructed:** 30-May-2024

No. of Samples: 10

Turnaround (Wkdays): 5 **Results Due:** 05-Jun-2024

Date Approved: 03-Jun-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 129-003008-002 Draytons Garage - Topsoil

Client: Mayer Environmental Ltd		Chemtest Job No.:						24-17063	24-17063	24-17063	24-17063	24-17063	24-17063
Quotation No.: Q24-33611		Chemtest Sample ID.:						1814633	1814634	1814635	1814636	1814637	1814638
Order No.: 129006057		Client Sample Ref.:						Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 1
		Sample Location:						Plot 3	Plot 3	Plot 3	Plot 3	Plot 3	Plot 5
		Sample Type:						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Date Sampled:						25-May-2024	25-May-2024	25-May-2024	25-May-2024	25-May-2024	25-May-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD								
Moisture		N	2030	%	0.020	20	20	21	20	21	21	21	19
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	None	Roots	None	Roots	Roots	Roots	Roots	Roots
Soil Texture		N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
Organic Matter		M	2625	%	0.40	11	16	8.3	3.4	7.0	10	6.0	
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	0.68	0.36	0.41	0.78	0.68	0.36	1.6	
Anthracene		M	2700	mg/kg	0.10	0.45	0.26	0.19	0.54	0.37	0.24	0.58	
Fluoranthene		M	2700	mg/kg	0.10	0.64	0.38	0.65	0.59	0.72	0.49	1.6	
Pyrene		M	2700	mg/kg	0.10	0.88	0.32	0.93	0.47	1.3	0.94	1.9	
Benzo[a]anthracene		M	2700	mg/kg	0.10	1.1	0.98	0.45	0.95	1.4	0.50	1.5	
Chrysene		M	2700	mg/kg	0.10	0.52	0.37	0.33	0.35	0.50	0.27	0.88	
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	0.44	< 0.10	0.30	0.34	0.41	0.39	0.78	
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	1.0	< 0.10	0.67	1.2	0.95	0.78	1.1	
Benzo[a]pyrene		M	2700	mg/kg	0.10	0.29	< 0.10	0.23	0.29	0.32	0.25	0.56	
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	6.0	2.7	4.2	5.5	6.7	4.2	11	

Results - Soil

Project: 129-003008-002 Draytons Garage - Topsoil

Client: Mayer Environmental Ltd		Chemtest Job No.:				24-17063	24-17063	24-17063
Quotation No.: Q24-33611		Chemtest Sample ID.:				1814640	1814641	1814642
Order No.: 129006057		Client Sample Ref.:				Sample 3	Sample 4	Sample 5
		Sample Location:				Plot 5	Plot 5	Plot 5
		Sample Type:				SOIL	SOIL	SOIL
		Date Sampled:				25-May-2024	25-May-2024	25-May-2024
Determinand	HWOL Code	Accred.	SOP	Units	LOD			
Moisture		N	2030	%	0.020	22	20	20
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Roots	Stones and Roots	Stones and Roots
Soil Texture		N	2040		N/A	Sand	Loam	Loam
Organic Matter		M	2625	%	0.40	7.2	11	6.0
Naphthalene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene		M	2700	mg/kg	0.10	0.22	< 0.10	< 0.10
Acenaphthene		M	2700	mg/kg	0.10	0.15	< 0.10	< 0.10
Fluorene		M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2700	mg/kg	0.10	0.36	0.64	1.2
Anthracene		M	2700	mg/kg	0.10	0.18	0.24	0.29
Fluoranthene		M	2700	mg/kg	0.10	0.46	0.44	1.2
Pyrene		M	2700	mg/kg	0.10	0.80	0.93	1.9
Benzo[a]anthracene		M	2700	mg/kg	0.10	0.55	0.64	1.1
Chrysene		M	2700	mg/kg	0.10	0.18	0.39	0.50
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	0.29	0.34	0.71
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	0.57	1.2	1.5
Benzo[a]pyrene		M	2700	mg/kg	0.10	0.18	0.13	0.43
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10	0.27	< 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10	0.12	< 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10	0.60	< 0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0	3.9	5.9	8.8

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	

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AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

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customerservices@chemtest.com