



RHONDDA
GEOTECHNICAL
SERVICES

PHASE 2 CONTAMINATED LAND REPORT

NEATH PORT TALBOT C.B.C.

PLANNING APPLICATION P/2024/0194

PROPOSED REDEVELOPMENT

AFAN UNITED F.C.

PORT TALBOT

SA12 6PE

21/08/2024

All Ordnance Survey mapping used in this report has been purchased from Groundsure or Promap and remains Crown Copyright. All mapping is orientated to grid north unless otherwise stated. S4UL values contained in this report are copyright of L.Q.M. and their unauthorised use is a breach of copyright.

This report is supplied in confidence to the client as a Contaminated Land Report. The author cannot be held responsible for any other use of the report. The author owes no duty of care caused by the unauthorised use of this report by third parties. This report remains the intellectual property of the author. Unauthorised use will result in legal action.

INTRODUCTION

Planning permission is being sought from Neath Port Talbot L.P.A. for the redevelopment of an old council owned artificial pitch. The application reference is P/2024/0194. The work includes the replacement of the artificial pitch (but not the pitch substructure) and the construction of a small changing room on land adjacent to the former Afan Lido in Port Talbot. The pitch will then be leased off N.P.T. by Afan United. N.P.T. have indicated that they require a Contaminated Land Risk Assessment before approving the work. Rhondda Geotechnical Services were engaged by the architect Go Concept Design to carry out this work. The exact wording initially requesting a Phase 1 was as follows:-

Contaminated Land

Historical maps show a tank present in the center of what is now the artificial pitch c.1956. We also have anecdotal evidence that steel work slag and other made ground material was used to develop the Sandfields area. Therefore it would be prudent that a desk study is carried out to investigate the human health risks associated with this development. The desk study should be written in accordance with [Land contamination risk management \(LCRM\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/land-contamination-risk-management-lcrm) and the WGLA Developers Guide (see attached pdf).

Rhondda Geotechnical Services were commissioned by the football club to produce the report. This was submitted to N.P.T. in October 2024. In a reply dated nine months later in July 2025 the N.P.T. Senior Environmental Protection Consultant stated the following (R.G.S. observations in black):-

Contamination

Rhondda Geotechnical Services, on behalf of the Client, was appointed to investigate any potential pollutant linkages that could impact the proposed redevelopment for commercial use.

The findings of the Phase 1 assessment concluded that the risk of potential contamination is low. The report references two trial pits excavated in January 2024. However, these trial pits were conducted solely for geotechnical purposes, and no samples were collected for contamination analysis.

There was never any pretense that these trial pits were for contamination analysis. The original N.P.T. request was for a desk study. The trial pits were excavated and logged by others prior to the production of the Phase 1. They gave a valuable insight into the ground conditions at the site, particularly the lack of Made Ground, and as such the additional information they gave over and above a pure desk study merited inclusion in the report.

Since the proposed development involves ground disturbance for foundations and drainage installation, the information provided is insufficient to support the report's conclusion.

Therefore, the applicant is required to undertake chemical sampling to assess potential contamination on site. Additionally, the applicant is required to provide the following:

- Submit a Phase 2 intrusive site investigation report. Depending on the findings, a remediation strategy and validation report may also be required.
- Ensure water supply pipes are protected from contamination.
- Provide appropriate chemical testing for any site-won materials intended for reuse.
- There is no planned re-use of site won materials.
- Test all imported materials to confirm their suitability for the proposed use.
- It is anticipated that the only imported material will be virgin quarry products which will have appropriate certification.
- Maintain a watching brief throughout the development works.

In light of the above, Conditions 3 (Phase 2 only) and 4 remain applicable to the planning decision.

To satisfy the conditions above Afan United requested that R.G.S. carried out an intrusive site investigation including soil sampling and laboratory testing of said samples. The investigation and results will be described in the following report. The figure, section and table numbers will follow on from those in the Phase 1. The Phase 1 should be consulted for location plans etc. to avoid any needless repetition in the Phase 2.

22. SITE INVESTIGATION AND SAMPLING METHODOLOGY

Intrusive site investigations were carried out on 4th August 2025 under the supervision of Richard Davies. Works consisted of the digging of six shallow trial pits with a 3-ton tracked excavator equipped with a “pecker”. The trial pit locations are shown in Figure 16 together with the depth of any samples taken. All six pits proved undisturbed natural ground which was found to be blown sand as anticipated by the Phase 1 Report. In the four pits on the southeastern side of the pitch this was directly beneath a substantial (0.35m) concrete layer covered with tarmac. This had to be broken out with some difficulty to allow excavation of the ground beneath. Across the other side of the pitch, behind the existing chain link fence, an earth embankment covered the blown sand. The proposed buildings are small but will require a raft foundation. There will also need to be SuDS drainage features. Most of the remainder of the site will be hard landscaping/parking. The trial pit locations were selected to represent a general spread across the proposed current development site, with two additional samples taken either side of the position of a proposed stand. The stand does not form part of the current application, but the results are important in establishing conditions across the site. Six soil samples were taken in all. This was considered reasonable and proportionate for an initial investigation of a site of this size. Trial pits were excavated to depths of 0.7m-1.5m. Digging further in clearly undisturbed natural ground was pointless. There was no visual or olfactory evidence of any contamination. Groundwater was not encountered in any of the pits.

Samples of soils were collected, placed in British Standard sealed containers and immediately labelled with depth, location and sample number. Each sampling location had four samples taken. These comprised two one litre plastic tubs, one 60ml. amber glass jar and one 120ml. amber glass jar. This is the recommended quantity required for a broad general suite of testing. The samples were taken with a stainless steel trowel, cleaned between samples to avoid cross contamination. The samples were stored in cool boxes and dispatched by courier to the laboratory the following morning. This meant that the lab was in receipt of the samples within 48 hours of them being taken, and the samples were kept under correct conditions throughout. This is important to ensure the samples are “non-deviating” particularly in the case of testing for organic contaminants.

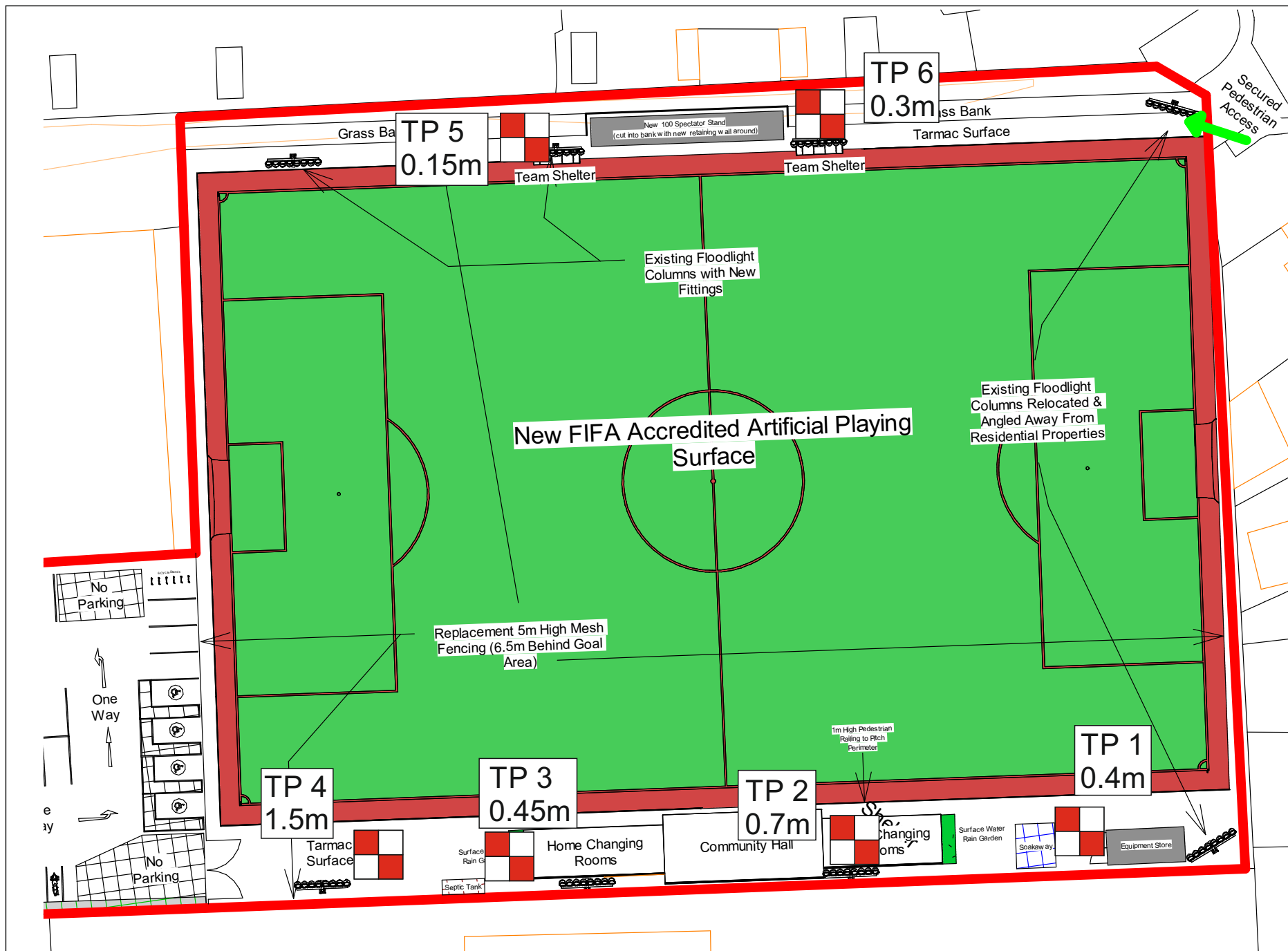


FIGURE 16 TRIAL PIT POSITIONS AND SAMPLING DEPTHS AT AFAN UTD.

23. TESTING STRATEGY

All the samples were tested by Chemtech Ltd at their laboratory in Durham. They hold both MCERTS and UKAS accreditation (UKAS lab no.2531). Their full details can be seen on page 1 of the laboratory report 25-07661-01. The complete report is attached as Appendix D.

A review of the site history meant there were no obvious sources of contamination other than a tank of unknown origin from 70 years ago. This position is now under the concrete substructure of the pitch. N.P.T. had insisted on the presence of Made Ground and slag although they admitted this was “anecdotal”. The assertion was not supported by the records of the trial pits previously excavated for geotechnical purposes. In the absence of any specifically identified source of contamination, the testing scheduled was the CLEA 2.1 Suite with the addition of an asbestos screen. The substances tested for could be described as a broad general suite in common use in British contaminated land studies. There was no identified source of Asbestos, but its ubiquitous presence in the urban environment means it should always be tested for. The substances tested for can be split into two main categories. Organic and Inorganic compounds.

The inorganic contaminants tested for were metals:-

Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium and Zinc.

In addition, Free Cyanide was measured, and all samples were screened for Asbestos.

Total Organic Carbon and moisture were both measured. From this, a calculation is used to derive Soil Organic Matter. This is needed to risk assess levels of organic contaminants. The risk assessments for organic contaminants differ with varying S.O.M. values. A wide range of organic contaminants were tested for.

All samples were tested for P.A.H.s (Polycyclic Aromatic Hydrocarbons). Sixteen different compounds were measured. These are the USEPA16. Originating from the U.S.A. they are an internationally recognised, representative and indicative group amongst the huge number of these compounds.

T.P.H. (total petroleum hydrocarbons) analysis was split up by Carbon Banding, along conventionally normal lines (Texas Banding). An aromatic/aliphatic split analysis was also carried out to allow further speciation of any hydrocarbon contamination detected.

Semi-Volatile Organic Contaminants (SVOCs) were also tested for. The analysis for Organic contaminants also included a Phenol Suite. This contained a range of six Monohydric Phenols commonly found on contaminated sites.

24. CHOICE OF SUITABLE FOR USE VALUES (S4ULs) USED IN PHASE 2

Much work has been done in recent years on human health risk assessment for exposure to contaminated land. Originally the E.A. produced figures known as Soil Guidance Values (SGVs). These were later withdrawn, and this has resulted in the production of Generic Assessment Criteria (GACs). These are figures produced for individual substances. If the concentration of a contaminant is above its GAC, there is a potential for harm to human health (or controlled waters). Each contaminant has different levels for different exposure scenarios. For example, for any given contaminant, its GAC is far higher for a commercial development than it would be for Residential Use with consumption of homegrown produce. Many GACs have been published by Contaminated Land: Applications in real environments (CL:AIRE), Land Quality Management Ltd. (LQM) and the Environmental Industries Commission (EIC).

Due to different non-government bodies producing GACS over the years since they were introduced, LQM have produced a complete revision of their figures and renamed them Suitable for Use Levels (S4ULs). The values used in this report are S4ULs except for Lead which has a Category 4 Screening Level (C4SL) produced by the Department for the Environment, Food and Rural Affairs. Cyanide is not assessed in this way, instead it has an acute GAC, rather than one modelled on long term exposure. Asbestos also has its own safety levels governing land use.

The LQM S4ULs have been derived in accordance with the changes in exposure modelling presented within the C4SL framework, whilst still using a set of toxicological criteria that are set within the “minimal risk” range. The LQM/CIEH S4ULs were published to offer a set of collated information on the toxicity and transport properties for numerous common contaminants. They are widely considered to be suitable for use in planning assessments such as this. The most recent update was published in 2017 and reflects changes in UK human health risk assessment since the previous figures were published in 2009. All the data inputs used in the derivation of the S4ULs are presented in full in the publication *LQM/CIEH Suitable 4 Use Levels*, and there is no intention to provide them here. These values are intended for use by professionals who have purchased them. To authenticate this the purchaser is supplied with an individual number to validate the report writer’s entitlement to use the LQM/CIEH S4ULs. This number can be seen on the result summary sheets in Tables 3-8. The author

has the right to reproduce these values here, but they remain copyright of LQM, a specialist environmental consultancy based in Nottingham.

The proposed development consists of a sports pitch within a residential area. Given the nature of the development, S4ULs for a Public Open Space near Residential properties (POS_{RESI}) were chosen as the most appropriate to risk assess the site. These values have been used when checking contamination levels at the site. However, the POS_{RESI} scenario is based on a real grass surface, with the possibility of contact with soil being transported into a house. This is not realistic, as the entire playing surface and spectator areas will be covered in concrete so the allowable contamination levels are unduly conservative.

25. SUMMARY OF GROUND CONDITIONS AND SOIL TEST RESULTS

The full trial pit logs to BS5930:2015 together with photographs of the trial pits can be found in Appendix E. In summary, All the pits were excavated through 350mm of reinforced concrete with a variable thickness of sub-base straight into the underlying natural ground which was a Blown Sand at depths of 0.35m-0.65m. There were no visual or olfactory signs of contamination. The sub-base was composed of a variable mixture of Limestone aggregate and concrete. Some slag was seen immediately below the concrete in TP3 only. The sub-base material was totally unsuited to laboratory testing because of grain size (samples need to be sized from fine sand downward to clay). Wherever possible, finer material within the disturbed ground beneath the sub-base was sampled. The natural ground was seemingly identical across the entire site. A summary of the laboratory report in Appendix D has been reproduced overleaf as Tables 3-8.

With the organic contaminants, the samples are normally subdivided based on their Soil Organic Matter (S.O.M.) as the S4UL value for each organic contaminant is controlled by the S.O.M. value. Five of the samples tested had a S.O.M. >1% <2.5%. The other sample had a S.O.M. >6%. Because of the two differing S.O.M. ranges there are two columns with different S4UL values for all the organic contaminants in Tables 3-6.

Table 3 shows that there were no S4UL value exceedances for the USEPA16 range of Polycyclic Aromatic Hydrocarbons (P.A.H.s) in any of the samples. In four samples all the USEPA16 substances were below the Level of Detection (LoD). There were minute traces in the other two samples.

In Table 4 the entire T.P.H. range (C5-C40) was below the LoD in all six samples.

In Table 5 all the SVOCs were below the level of detection in all six soil samples.

Because all the six speciated Phenols were below the level of detection in all six samples, only the Phenol Index is shown in Table 6, without speciation.

With the inorganic substances in Table 7, there were no exceedances for any Metal in any sample.

Cyanide levels were below the limit of detection in all six samples. Asbestos was not detected in any of the six samples.

To summarise, there were no exceedances of the POS_{RESI} S4UL value for any substance in any sample.

**ALL S4ULs COPYRIGHT LAND QUALITY MANAGEMENT LIMITED. REPRODUCED
WITH PERMISSION.PUBLICATION NUMBER S4UL3694.**

ALL VALUES ARE IN mg/kg

S4UL VALUES REFER TO PUBLIC OPEN SPACE NEAR RESIDENTIAL SCENARIO

SOIL ORGANIC MATTER(S.O.M.)						>1%	>6%	
CONTAMINANT	TP 1 0.4m	TP2 0.7m	TP 3 0.45m	TP 4 1.5m	TP 6 0.3m	S4UL	TP5 0.15m	S4UL
NAPHTHALENE	<0.016	<0.016	<0.016	<0.016	<0.016	4900	<0.016	4900
ACENAPHTHYLENE	<0.015	<0.015	<0.015	<0.015	<0.015	15000	<0.015	15000
ACENAPHTHENE	<0.013	<0.013	<0.013	<0.013	<0.013	15000	<0.013	15000
FLOURENE	<0.013	<0.013	<0.013	<0.013	<0.013	9900	<0.013	9900
PHENANTHRENE	<0.014	<0.014	<0.014	<0.014	<0.014	3100	<0.014	3100
ANTHRACENE	<0.017	<0.017	<0.017	<0.017	<0.017	74000	<0.017	74000
FLOURANTHENE	0.025	<0.017	<0.017	<0.017	<0.017	3100	0.227	3100
PYRENE	0.019	<0.016	<0.016	<0.016	<0.016	7400	0.189	7400
BENZO[a]ANTHRACENE	0.019	<0.012	<0.012	<0.012	<0.012	29	0.139	29
CHRYSENE	<0.028	<0.028	<0.028	<0.028	<0.028	57	0.132	57
BENZO[b]FLOURANTHENE	0.022	<0.020	<0.020	<0.020	<0.020	7.1	0.211	7.2
BENZO[k]FLOURANTHENE	<0.025	<0.025	<0.025	<0.025	<0.025	190	0.069	190
BENZO[a]PYRENE	<0.019	<0.019	<0.019	<0.019	<0.019	5.7	0.144	5.7
INDENO[1,2,3-cd]PYRENE	<0.019	<0.019	<0.019	<0.019	<0.019	82	0.138	82
DIBENZO[a,h]ANTHRACENE	<0.017	<0.017	<0.017	<0.017	<0.017	0.57	0.03	0.57
BENZO[g,h,i]PERYLINE	<0.019	<0.019	<0.019	<0.019	<0.019	640	0.097	640
TOTAL(USEPA 16) PAHs	<0.28	<0.28	<0.28	<0.28	<0.28	N/A	1.48	N/A
TABLE 3 POLYCYCLIC AROMATIC HYDROCARBONS (USEPA16)								

SUMMARY OF TEST RESULTS AFAN UNITED, SANDFIELDS

**ALL S4ULs COPYRIGHT LAND QUALITY MANAGEMENT LIMITED. REPRODUCED
WITH PERMISSION.PUBLICATION NUMBER S4UL3694.**

ALL VALUES ARE IN mg/kg

S4UL VALUES REFER TO PUBLIC OPEN SPACE NEAR RESIDENTIAL SCENARIO

SOIL ORGANIC MATTER(S.O.M.)						>1%	>6%	
CARBON BANDING	TP 1 0.4m	TP2 0.7m	TP 3 0.45m	TP 4 1.5m	TP 6 0.3m	S4UL	TP5 0.15m	S4UL
>C5-C6 ALI	<0.1	<0.1	<0.1	<0.1	<0.1	304	<0.1	590000
>C6-C8 ALI	<0.1	<0.1	<0.1	<0.1	<0.1	60000	<0.1	61000
>C8-C10 ALI	<0.1	<0.1	<0.1	<0.1	<0.1	13000	<0.1	13000
>C10-C12 ALI	<1.0	<1.0	<1.0	<1.0	<1.0	13000	<1.0	13000
>C12-C16 ALI	<0.5	<0.5	<0.5	<0.5	<0.5	13000	<0.5	13000
>C16-C21 ALI	<0.7	<0.7	<0.7	<0.7	<0.7	250000	<0.7	250000
>C21-C35 ALI	<4.0	<4.0	<4.0	<4.0	<4.0		<4.0	
>C35-C40 ALI	<0.5	<0.5	<0.5	<0.5	<0.5	250000	<0.5	250000
>C6-C7 ARO	<0.01	<0.01	<0.01	<0.01	<0.01	56000	<0.01	56000
>C7-C8 ARO	<0.01	<0.01	<0.01	<0.01	<0.01	56000	<0.01	56000
>C8-C10 ARO	<0.01	<0.01	<0.01	<0.01	<0.01	5000	<0.01	5000
>C10-C12 ARO	<0.6	<0.6	<0.6	<0.6	<0.6	5000	<0.6	5000
>C12-C16 ARO	<1.0	<1.0	<1.0	<1.0	<1.0	5100	<1.0	5100
>C16-C21 ARO	<2.0	<2.0	<2.0	<2.0	<2.0	3800	<2.0	3800
>C21-C35 ARO	<4.5	<4.5	<4.5	<4.5	<4.5	3800	<4.5	3800
>C35-C40 ARO	<1.5	<1.5	<1.5	<1.5	<1.5	3800	<1.5	3800
TOTAL TPH C5-C10	<0.1	<0.1	<0.1	<0.1	<0.1	N/A	<0.1	N/A
TOTAL TPH C10-C40	<11.5	<11.5	<11.5	<11.5	<11.5	N/A	<11.5	N/A
TOTAL TPH >C5-C40	<11.5	<11.5	<11.5	<11.5	<11.5	N/A	<11.5	N/A
TABLE 4 TOTAL PETROLEUM HYDROCARBONS WITH TEXAS BANDING AND ALI/ARO SPLIT								

TABLE 4 TOTAL PETROLEUM HYDROCARBONS WITH TEXAS BANDING AND ALI/ARO SPLIT

SUMMARY OF TEST RESULTS AFAN UNITED, SANDFIELDS

**ALL S4ULs COPYRIGHT LAND QUALITY MANAGEMENT LIMITED. REPRODUCED
WITH PERMISSION.PUBLICATION NUMBER S4UL3694.**

ALL VALUES ARE IN mg/kg

S4UL VALUES REFER TO PUBLIC OPEN SPACE NEAR RESIDENTIAL SCENARIO

SOIL ORGANIC MATTER(S.O.M.)						>1%	>6%	
CONTAMINANT	TP1 0.4m	TP2 0.7m	TP3 0.45m	TP4 1.5m	TP6 0.3m	S4UL	TP102 0.5m	S4UL
PHENOL	<0.1	<0.1	<0.1	<0.1	<0.1	760	<0.1	3200
CRESOLS	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	
XYLENOLS	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	
NAPTHOLS	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	
TRIMETHYLPHENOLS	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	
TABLE 5 SVOCs								

SOIL ORGANIC MATTER(S.O.M.)						>1%	>6%	
	TP 1 0.4m	TP2 0.7m	TP 3 0.45m	TP 4 1.5m	TP 6 0.3m	S4UL	TP5 0.15m	S4UL
MONOHYDRIC PHENOLS	<0.5	<0.5	<0.5	<0.5	<0.5	760	<0.5	3200
TABLE 6 PHENOL INDEX								

SUMMARY OF TEST RESULTS AFAN UNITED, SANDFIELDS

**ALL S4ULs COPYRIGHT LAND QUALITY MANAGEMENT LIMITED. REPRODUCED
WITH PERMISSION. PUBLICATION NUMBER S4UL3694.**

ALL VALUES ARE IN mg/kg

S4UL VALUES REFER TO PUBLIC OPEN SPACE NEAR RESIDENTIAL SCENARIO

CONTAMINANT	TP 1 0.4m	TP2 0.7m	TP 3 0.45m	TP 4 1.5m	TP 5 0.15m	TP 6 0.3m	S4UL	
ARSENIC	19.9	10.0	10.8	11.0	20.2	11.1	79	
CADMIUM	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	120	
CHROMIUM	16.7	5.8	6.6	9.7	22.3	5.8	1500	
COPPER	54.8	5.2	4.7	5.5	70.5	3.9	12000	
LEAD	77.2	8.4	10.0	25.9	85.9	8.0	630	(C4SL)
MERCURY	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	120	
NICKEL	10.7	3.8	5.0	7.8	25.0	4.0	230	
SELENIUM	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	1100	
ZINC	106	21.5	28.7	36.4	180.0	26.1	81000	
CYANIDE	<1.0	<1.0	<1.0	<1.0	<1.0		22	GACacute
TABLE 7 TOXIC/HEAVY METALS AND CYANIDE								

	TP 1 0.4m	TP2 0.7m	TP 3 0.45m	TP 4 1.5m	TP 5 0.15m	TP 6 0.3m	
WEIGHT (g)	0	0	0	0	0	0	
% DRY WEIGHT OF SAMPLE	0	0	0	0	0	0	
TABLE 8 ASBESTOS ANALYSIS							

SUMMARY OF TEST RESULTS AFAN UNITED, SANDFIELDS

26. REVISED RISK ASSESSMENT FOR GROUND GAS

The Phase 1 desk study established there was no risk from landfill gas migrating to the site. The Coal Mining Gas Risk Assessment established there was no risk to the site from the migration of mine gases.

VOCs or SVOCs are completely absent from the soil samples taken at the site. Therefore, there is no threat of vapour intrusion.

The trial pitting established there was no imported biodegradable material in the soil at the site so no potential for onsite gas production at shallow depth. From previous work carried out in the area by the author over the last 30 years it is possible there are natural organic soils at depth beneath the site. There are thin laterally discontinuous layers of Peat in the area, and it is possible the site is underlain at depth by Peat. The peat dates from the immediate post-glacial period after the last (Devensian) glaciation. Rising sea levels then buried the Peat, and it is highly compacted. The compaction of the peat beneath permeable sand means little or no finite gas remains and does not pose a viable threat of ground gas production.

All risks from ground gases from all sources have now been removed from Table 9 which is the Final Ground Gas Risk Assessment.

27. RISK ASSESSMENT FOR CONTROLLED WATERS

No contamination was detected in any of the soil samples from the site. With no contamination source on site, there cannot be an onward pathway to more distant environmental receptors. The risk has been removed from the final risk assessment in Table 10.

28. REVISED RISK ASSESSMENT FOR SOILS

No contamination above the acceptable levels for the chosen ground use scenario (POS_{RESI}) was detected in the soil samples taken from the site. The S4UL levels used to assess the risk are much lower than the Commercial Land Use Scenario, which the site most closely resembles i.e. no exposed soil and visitors only, no residents. However, these arguments are superfluous at the site. Contaminant levels are so low, there are no exceedances of the far more stringent Residential with Homegrown Produce scenario. These are the most conservative values of all. With no contamination detected in soils at the site there is no source and no pathway to above ground receptors. This risk has now been removed from the final risk assessment in Table 10. A Conceptual

Site Model reflecting the above assessments is not now required as there are no relevant sources, pathways or receptors it could show.

29. SUMMARY OF REMEDIATION OBJECTIVES, CRITERIA AND OPTIONS

The objective of any remediation strategy is to make the land suitable for its intended use. In this case a sports ground facility for Afan United Football Club. This will have very limited soft landscaping confined to some minor SuDS features. A thorough risk assessment has included a desk study, and an intrusive site investigation followed by laboratory testing. This has established beyond doubt that the site is already suitable for such a use. Therefore, there is no requirement for a remediation strategy. Intrusive groundworks will be minimal during most of the redevelopment of the pre-existing building, limited to shallow, flat raft foundations. New services are going to be run in, the depth of these is currently unknown, but likely to be shallow. The soil pH is slightly alkaline (8.1-9.5) but not aggressively so. Since they will be concreted over, the services will undoubtedly be run in ducts and will not come into direct contact with the soil.

The conclusions of this report mean that subject to the agreement of Neath Port Talbot L.P.A. this report satisfies the pre-commencement request for a desk top study and intrusive investigation as specified (Condition 3). Because there is no soil contamination at the site, and hence no remediation necessary, remediation and validation conditions (Condition 4) are not applicable. The unexpected contamination condition is standard, and it not pre-commencement.

Richard Davies BSc.(Hons.), MSc., F.G.S.

20/08/2025

TABLE 9 FINAL GROUND GAS RISK ASSESSMENT AFAN UNITED, PORT TALBOT.					
SOURCE	PATHWAY	RECEPTOR	CONSEQUENCE CLASSIFICATION	RISK	FURTHER ACTION
HAZARDOUS GROUND GAS FROM OFF SITE SOURCE	INHALATION, INJURY FROM EXPLOSION	SITE USERS, VISITORS, CONSTRUCTION WORKERS	SEVERE	LOW. NO LANDFILL WITHIN 500m. NO COAL WORKINGS BENEATH THE SITE. NO RISK FROM MINE GAS.	NO FURTHER ACTION REQUIRED
HAZARDOUS GROUND GAS FROM OFF SITE SOURCE	DAMAGE FROM EXPLOSION	BUILDINGS	SEVERE		
HAZARDOUS GROUND GAS FROM ON SITE SOURCE	INHALATION, INJURY FROM EXPLOSION	SITE USERS, VISITORS, CONSTRUCTION WORKERS	SEVERE	LOW. NO POSSIBILITY OF ON SITE GENERATION FROM MADE GROUND OR ORGANIC SOILS.	NO FURTHER ACTION REQUIRED
HAZARDOUS GROUND GAS FROM ON SITE SOURCE	DAMAGE FROM EXPLOSION	BUILDINGS	SEVERE		
RADON GAS	LONG TERM HAZARD FROM INHALATION	SITE USERS	SEVERE	LOW. <1% OF PROPERTIES AFFECTED BY RADON.	NO FURTHER ACTION REQUIRED

TABLE 10						
INITIAL QUALITATIVE HUMAN HEALTH RISK ASSESSMENT AND ENVIRONMENTAL RISK ASSESSMENT AT AFAN UNITED, PORT TALBOT						
CONTAMINANT SOURCE	PATHWAYS	RECEPTORS	POTENTIAL SEVERITY	PROBABILITY OF RISK	LEVEL OF RISK	FURTHER ACTION REQUIRED
ON SITE: POTENTIAL CONTAMINATION IN SOILS/MADE GROUND. POSSIBLY ELEVATED LEVELS OF METALS AND PAH	INGESTION, DERMAL CONTACT, INHALATION	FUTURE END USERS, VISITORS	MEDIUM	LOW	LOW	A THOROUGH SITE INVESTIGATION WITH SOIL SAMPLING AND LABORATORY TESTING HAS DEMONSTRATED THERE IS NO CONTAMINATION AT THE SITE. NO FURTHER ACTION REQUIRED
	CONTACT WITH CONTAMINATED GROUNDWATER	FUTURE END USERS, VISITORS AND CONSTRUCTION WORKERS	MEDIUM			
	PERMEATION OF WATER PIPES	FUTURE END USERS AND SITE VISITORS	MEDIUM			
	INGESTION OF HOME GROWN PRODUCE	FUTURE END USERS	N/A			
ON SITE: ASBESTOS AT OR NEAR GROUND SURFACE IN SOILS/MADE GROUND	INHALATION OF FIBRES IN AIRBORNE DUST	FUTURE END USERS AND SITE VISITORS	HIGH	LOW	LOW	THE LABORATORY TESTING INCLUDED AN ASBESTOS SCREEN. NO ASBESTOS DETECTED, NO FURTHER ACTION REQUIRED.
		CONSTRUCTION WORKERS	HIGH	LOW	LOW	
ON SITE: POTENTIAL CONTAMINATION IN SOILS/MADE GROUND. POSSIBLY ELEVATED LEVELS OF CONTAMINANTS	RUN OFF	SURFACE DRAINAGE	MEDIUM	LOW	LOW	WITH NO SOIL CONTAMINATION ON THE SITE THERE IS NO SOURCE, NO PATHWAY AND NO RISK TO THE WIDER ENVIRONMENT. NO FURTHER ACTION REQUIRED.
	MIGRATION THROUGH SOIL VIA LEACHING	SHALLOW GROUNDWATER				
	ONWARD MIGRATION OF GROUNDWATER	BEDROCK AQUIFER				

APPENDIX C
TRIAL PIT LOGS AND PHOTOGRAPHS
TO BS5930:2015
AFAN UNITED
PORT TALBOT

Project: AFAN UNITED, ABERAVON	Project No: WSM173
Described By: R.DAVIES	Trial Pit No. TP1
Date: 4/08/2025	Sheet: 1 of 1
Method / Plant TRACKED EXCAVATOR	Groundwater Observations: DRY
Stability GOOD	Strike of Face A:
Shoring NONE	Loggers Signature

FACE SKETCHES - INCLUDING ANY SIGNIFICANT FINDINGS WITHIN TRIAL PIT

Samples and Tests		Strata	
Depth (m)	Type (B,D,ES)	Depth (m)	Strata Description
		G.L.	Concrete with 75mm Tarmac
		0.35	Loose brown fine to medium SAND
0.4	ES1		
		0.7	



TP 1

Project: AFAN UNITED, ABERAVON	Project No: WSM173
Described By: R.DAVIES	Trial Pit No. TP2
Date: 4/08/2025	Sheet: 1 of 1
Method / Plant TRACKED EXCAVATOR	Groundwater Observations: DRY
Stability GOOD	Strike of Face A:
Shoring NONE	Loggers Signature

FACE SKETCHES - INCLUDING ANY SIGNIFICANT FINDINGS WITHIN TRIAL PIT

Samples and Tests		Strata	
Depth (m)	Type (B,D,ES)	Depth (m)	Strata Description
		G.L.	Concrete with 75mm Tarmac
		0.35	Loose brown fine to medium SAND with angular limestone aggregate. MADE GROUND
0.7	ES2	0.65	Loose brown fine to medium SAND.
		1.0	

Notes: ES-Environmental Soil
EW - Environmental Water
B - Bulk Disturbed
D - Small Disturbed

TRIAL PIT NUMBER
TP2



TP 2

Project: AFAN UNITED, ABERAVON	Project No: WSM173
Described By: R.DAVIES	Trial Pit No. TP3
Date: 4/08/2025	Sheet: 1 of 1
Method / Plant TRACKED EXCAVATOR	Groundwater Observations: DRY
Stability GOOD	Strike of Face A:
Shoring NONE	Loggers Signature

FACE SKETCHES - INCLUDING ANY SIGNIFICANT FINDINGS WITHIN TRIAL PIT

Samples and Tests		Strata	
Depth (m)	Type (B,D,ES)	Depth (m)	Strata Description
		G.L.	Concrete with 75mm Tarmac
		0.35	
			Loose brown fine to medium SAND with angular steelworks slag. MADE GROUND
0.45	ES3	0.45	
			Loose brown fine to medium SAND.
		1.0	

Notes: ES-Environmental Soil
EW - Environmental Water
B - Bulk Disturbed
D - Small Disturbed

TRIAL PIT NUMBER
TP3



TP 3

Project: AFAN UNITED, ABERAVON	Project No: WSM173
Described By: R.DAVIES	Trial Pit No. TP4
Date: 4/08/2025	Sheet: 1 of 1
Method / Plant TRACKED EXCAVATOR	Groundwater Observations: DRY
Stability GOOD	Strike of Face A:
Shoring NONE	Loggers Signature

FACE SKETCHES - INCLUDING ANY SIGNIFICANT FINDINGS WITHIN TRIAL PIT

Samples and Tests		Strata	
Depth (m)	Type (B,D,ES)	Depth (m)	Strata Description
		G.L.	Concrete with 75mm Tarmac
		0.35	Loose brown fine to medium SAND with angular limestone aggregate. MADE GROUND
		0.55	Loose brown fine to medium SAND.
1.5	ES4	1.5	

Notes: ES-Environmental Soil
EW - Environmental Water
B - Bulk Disturbed
D - Small Disturbed

TRIAL PIT NUMBER
TP4



TP 4

Project: AFAN UNITED, ABERAVON	Project No: WSM173
Described By: R.DAVIES	Trial Pit No. TP5
Date: 4/08/2025	Sheet: 1 of 1
Method / Plant TRACKED EXCAVATOR	Groundwater Observations: DRY
Stability GOOD	Strike of Face A:
Shoring NONE	Loggers Signature

FACE SKETCHES - INCLUDING ANY SIGNIFICANT FINDINGS WITHIN TRIAL PIT

Samples and Tests		Strata	
Depth (m)	Type (B,D,ES)	Depth (m)	Strata Description
		G.L.	Firm to stiff brown silty CLAY (SUBSOIL)
0.15	ES5	0.2	
			Loose brown fine to medium SAND
		0.6	

Notes: ES-Environmental Soil
EW - Environmental Water
B - Bulk Disturbed
D - Small Disturbed

TRIAL PIT NUMBER
TP5



TP 5

Project: AFAN UNITED, ABERAVON	Project No: WSM173
Described By: R.DAVIES	Trial Pit No. TP6
Date: 4/08/2025	Sheet: 1 of 1
Method / Plant TRACKED EXCAVATOR	Groundwater Observations: DRY
Stability GOOD	Strike of Face A:
Shoring NONE	Loggers Signature

FACE SKETCHES - INCLUDING ANY SIGNIFICANT FINDINGS WITHIN TRIAL PIT

Samples and Tests		Strata	
Depth (m)	Type (B,D,ES)	Depth (m)	Strata Description
		G.L.	MADE GROUND. Firm brown sandy clay, sand and subsoil.
0.3	ES6	0.3	Loose brown fine to medium SAND
		0.7	



TP 6

APPENDIX D

CHEMTECH LABORATORY REPORT 25-07661-01

AFAN UNITED

PORT TALBOT



ANALYTICAL TEST REPORT

Report Number 25-07661, issue number 1

Contract name: WSM173 Afan United, Port Talbot

Client reference: WSM173

Clients name: Rhondda Geotechnical Services

Clients address: RHONGEOSER
56 Meyler Street
Thomastown
Porth
CF39 8EA

Samples received: 05/08/2025

Analysis started: 05/08/2025

Analysis completed: 11/08/2025

Report issued: 11/08/2025

Key

U UKAS accredited test
M MCERTS & UKAS accredited test
(B) Analysis performed at Southampton Site
I/S Insufficient sample to carry out test
U/S Sample not suitable for testing
NAD No Asbestos Detected

A handwritten signature in black ink, appearing to read 'Abbie Neasham-Bourn'.

Approved by: Abbie Neasham-Bourn
Senior Reporting Administrator

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
61570	TP1 ES1	0.40 - 0.40	Sand with Gravel.	-	-	5.9
61571	TP2 ES2	0.70 - 0.70	Sand with Gravel.	-	-	3.7
61572	TP3 ES3	0.45 - 0.45	Sand with Gravel.	-	-	3.5
61573	TP4 ES4	1.50 - 1.50	Sand with Gravel.	-	-	4.6
61574	TP5 ES5	0.15 - 0.15	Clayey Sand with Gravel and Vegetation.	-	-	6.5
61575	TP6 ES6	0.30 - 0.30	Sand with Gravel.	-	-	1.2

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

- a Sampling date not provided
- b Sampling time not provided (waters only)
- c Sample not received in appropriate containers
- d Storage Temperature
- e Headspace present in sample container
- f Sample exceeded sampling to receipt
- g Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
61570	TP1 ES1	0.40 - 0.40	N	
61571	TP2 ES2	0.70 - 0.70	N	
61572	TP3 ES3	0.45 - 0.45	N	
61573	TP4 ES4	1.50 - 1.50	N	
61574	TP5 ES5	0.15 - 0.15	N	
61575	TP6 ES6	0.30 - 0.30	N	

SOILS

Lab Number					61570	61571	61572	61573	61574
Sample ID					TP1 ES1	TP2 ES2	TP3 ES3	TP4 ES4	TP5 ES5
Depth (m)					0.40 - 0.40	0.70 - 0.70	0.45 - 0.45	1.50 - 1.50	0.15 - 0.15
Sampling Date					04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	NAD	NAD	NAD	NAD	NAD
Metals									
Arsenic	CE264	U	1.8	mg/kg	19.9	10.0	10.8	11.0	20.2
Cadmium	CE264	M	1.6	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Chromium	CE264	U	2	mg/kg	16.7	5.8	6.6	9.7	22.3
Copper	CE264	M	1.6	mg/kg	54.8	5.2	4.7	5.5	70.5
Lead	CE264	U	2.3	mg/kg	77.2	8.4	10.0	25.9	85.9
Mercury	CE264	U	0.7	mg/kg	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Nickel	CE264	M	2.1	mg/kg	10.7	3.8	5.0	7.8	25.0
Selenium	CE264	U	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	4	mg/kg	106	21.5	28.7	36.4	180
Colourimetric									
Total Monohydric Phenols	CE078	N	0.5	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Cyanide	CE077	N	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Combustion									
Moisture Content	CE001	N	0.1	%	5.9	3.7	3.5	4.6	6.5
Total Organic Carbon	CE197	M	0.1	%	0.42	0.11	0.16	0.20	3.85
Soil Organic Matter	CE192	N	0.1	%	0.72	0.19	0.28	0.34	6.64
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	< 0.014	< 0.014	< 0.014	< 0.014	0.088
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	< 0.017	< 0.017	0.020
Fluoranthene	CE087	M	0.017	mg/kg	0.025	< 0.017	< 0.017	< 0.017	0.227
Pyrene	CE087	M	0.016	mg/kg	0.019	< 0.016	< 0.016	< 0.016	0.189
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.019	< 0.012	< 0.012	< 0.012	0.139
Chrysene	CE087	M	0.028	mg/kg	< 0.028	< 0.028	< 0.028	< 0.028	0.132
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.022	< 0.020	< 0.020	< 0.020	0.211

SOILS

Lab Number					61570	61571	61572	61573	61574
Sample ID					TP1 ES1	TP2 ES2	TP3 ES3	TP4 ES4	TP5 ES5
Depth (m)					0.40 - 0.40	0.70 - 0.70	0.45 - 0.45	1.50 - 1.50	0.15 - 0.15
Sampling Date					04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Test	Method	Accred	LoD	Units					
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	< 0.025	< 0.025	< 0.025	0.069
Benzo(a)pyrene	CE087	U	0.019	mg/kg	< 0.019	< 0.019	< 0.019	< 0.019	0.144
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	< 0.019	< 0.019	< 0.019	< 0.019	0.138
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	< 0.017	< 0.017	0.030
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	< 0.019	< 0.019	< 0.019	< 0.019	0.097
Total PAH(16)	CE087	N	0.28	mg/kg	< 0.280	< 0.280	< 0.280	< 0.280	1.48
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
>C35-C40 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5
>C35-C40 Aromatic (EH_2D_AR)	CE250	N	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
>C5-C10 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C10-C40 Total (EH_2D_Total)	CE250	N	11.5	mg/kg	< 11.5	< 11.5	< 11.5	< 11.5	< 11.5
Total Hydrocabons C5-C40 (HS_1D+EH_2D_Total)	CE250	N	11.5	mg/kg	< 11.5	< 11.5	< 11.5	< 11.5	< 11.5
Wet Chem									
pH	CE004	M	0.1	pH units	9.5	9.1	8.3	8.9	8.1

SOILS

Lab Number					61575
Sample ID					TP6 ES6
Depth (m)					0.30 - 0.30
Sampling Date					04/08/2025
Test	Method	Accred	LoD	Units	
Asbestos					
Asbestos Identification	SUBCO N	SU	0	-	NAD
Metals					
Arsenic	CE264	U	1.8	mg/kg	11.1
Cadmium	CE264	M	1.6	mg/kg	< 1.6
Chromium	CE264	U	2	mg/kg	5.8
Copper	CE264	M	1.6	mg/kg	3.9
Lead	CE264	U	2.3	mg/kg	8.0
Mercury	CE264	U	0.7	mg/kg	< 0.7
Nickel	CE264	M	2.1	mg/kg	4.0
Selenium	CE264	U	3	mg/kg	< 3.0
Zinc	CE264	M	4	mg/kg	26.1
Colourimetric					
Total Monohydric Phenols	CE078	N	0.5	mg/kg	< 0.50
Total Cyanide	CE077	N	1	mg/kg	< 1.0
Combustion					
Moisture Content	CE001	N	0.1	%	1.2
Total Organic Carbon	CE197	M	0.1	%	0.26
Soil Organic Matter	CE192	N	0.1	%	0.45
Polyaromatic hydrocarbons					
Naphthalene	CE087	M	0.016	mg/kg	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	< 0.014
Anthracene	CE087	U	0.017	mg/kg	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	< 0.017
Pyrene	CE087	M	0.016	mg/kg	< 0.016
Benzo(a)anthracene	CE087	U	0.012	mg/kg	< 0.012
Chrysene	CE087	M	0.028	mg/kg	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	< 0.020

SOILS

Lab Number					61575
Sample ID					TP6 ES6
Depth (m)					0.30 - 0.30
Sampling Date					04/08/2025
Test	Method	Accred	LoD	Units	
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	< 0.019
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	< 0.019
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	< 0.019
Total PAH(16)	CE087	N	0.28	mg/kg	< 0.280
Total Petroleum Hydrocarbons					
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	< 1.0
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	< 0.7
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	< 4.0
>C35-C40 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	< 0.6
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	< 1.0
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	< 4.5
>C35-C40 Aromatic (EH_2D_AR)	CE250	N	1.5	mg/kg	< 1.5
>C5-C10 Total (HS_1D_Total)	CE267	N	0.1	mg/kg	< 0.10
>C10-C40 Total (EH_2D_Total)	CE250	N	11.5	mg/kg	< 11.5
Total Hydrocabons C5-C40 (HS_1D+EH_2D_Total)	CE250	N	11.5	mg/kg	< 11.5
Wet Chem					
pH	CE004	M	0.1	pH units	8.6



SOIL SVOCS

Lab Number					61570	61571	61572	61573	61574
Sample ID					TP1 ES1	TP2 ES2	TP3 ES3	TP4 ES4	TP5 ES5
Depth (m)					0.40 - 0.40	0.70 - 0.70	0.45 - 0.45	1.50 - 1.50	0.15 - 0.15
Sampling Date					04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Test	Method	Accred	LoD	Units					
SVOC									
Phenol	CE189	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cresols	CE189	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols	CE189	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Naphthols	CE189	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenols	CE189	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10



SOIL SVOCS

Lab Number					61575
Sample ID					TP6 ES6
Depth (m)					0.30 - 0.30
Sampling Date					04/08/2025
Test	Method	Accred	LoD	Units	
SVOC					
Phenol	CE189	N	0.1	mg/kg	< 0.10
Cresols	CE189	N	0.1	mg/kg	< 0.10
Xylenols	CE189	N	0.1	mg/kg	< 0.10
Naphthols	CE189	N	0.1	mg/kg	< 0.10
Trimethylphenols	CE189	N	0.1	mg/kg	< 0.10

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE267	VPH in Soil	HS-GCFID	As submitted sample
CE250	GCXGC in Soil	DCM Extraction and GCxGC-FID	As submitted sample
SUBCON	Asbestos Soil	HSG248	Air Dried Sample
CE189	SVOC in solids	DCM Extraction and GCMS	As submitted sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE078	Phenols in Soil	Continuous Flow Analyser	As submitted sample
CE077	Cyanides in Soils	Continuous Flow Analyser	As submitted sample
CE197	Primacs in Soil	Primacs	Air dried sample

REPORT INFORMATION

Report No.:25-07661, issue number 1

Key

U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

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

This report shall not be reproduced except in full, without prior written approval.

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Sampling was undertaken by Chemtech Environmental Limited and is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying

For soils and solids, analytical results are inclusive of stones, where applicable.

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - 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	Aromatics only
2D	GC-GC - Double coil gas chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_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
MS	Mass Spectrometry

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

Vat Reg No. 772 5703 18 Registered in England number 4284013