Temple Park Centre, South Shields

Final Verification Report

South Tyneside Council

January 2020

Job Number: 5187832

Revision 1

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1. Scope and Objectives

1.1. Background

Atkins Ltd (herein referred to as Atkins), has been appointed by South Tyneside Council, to prepare a Remediation Verification report for the works at the Temple Park Centre, South Shields (herein referred to as the site). The existing site plan (AD6177/02A) is included within Appendix A.

The site redevelopment includes demolition works; filling of the old swimming pool; construction of a new gable wall; landscaping and construction of new service corridors. The proposed site layout is presented on drawings AD6177/03A (Appendix A).

1.2. Scope of Works

The project is subject to planning regulations and as such a Planning Approval, ref ST/0610/18/LAA was granted for the site. The planning approval contained some conditions in relation to contaminated land aspects. This remediation verification report, addresses Condition 4 of the planning approval, and comprises the following:

- Summary of key information from the Atkins Phase 1 – desk study [1], and Atkins Phase 3 - remediation strategy [2];
- Presentation of remedial objectives, as set out in the remediation strategy; and,
- Presentation of documentation, data and evidence collected during construction works (predominantly by the Contractor, unless otherwise stated) to record the implementation of the remediation strategy.

1.3. Roles and Responsibilities

Tolent Ltd (referred to herein as Tolent) was employed by South Tyneside Council (STC) as the Principal Contractor for the demolition and construction works and was responsible for adhering to the Remediation Strategy [2] written by Atkins in 2017. Tolent were responsible for the duty of care obligations, undertaking verification sampling and collating the appropriate records to demonstrate compliance with the Remediation Strategy and the U1 Exemption, which is provided in Appendix B.

Tolent completed the remediation objectives utilising the subcontractors detailed in Table 1-1:

Table 1-1 - Subcontractors

Contractor	Works completed
Lucion Services Ltd.	Asbestos survey and removal
MGL Demolition and Earthworks Ltd.	Building demolition and earthworks
Dunelm Geotechnical and Environmental Ltd.	Supervision of earthworks and scheduling samples for contamination testing
Green Piling Ltd.	Piling contractors

Atkins was appointed directly by South Tyneside Council to collate the data from the main Contractor and to prepare the Verification Report.

1.4. Assumptions and Limitations

This report should be read in the context of the legislation, statutory requirements and/or industry good practice applicable at the time of the report being written. Any subsequent changes in this legislation, guidance or design may necessitate the findings to be re-assessed.

This report relates to remediation of land contamination and reuse of site won arisings under a 'Use of waste in construction' U1 Exemption which is provided in Appendix B. No consideration for geotechnical, ecological, flood or archaeological matters are included within this report.

Atkins was not commissioned to routinely attend site during the remedial works, therefore this Validation Report is based on the evidence provided to Atkins by Tolent and other third party sources. Atkins have not been able to verify independently all third-party information and for the purposes of this report has assumed that such information is accurate and compete. Third party information reviewed as part of this report includes but is not limited to:

- Installation of gas protection measures in line with Characteristic Situation 2 risk categorisation as per CIRIA C665 [3] and protection measures in line with YALPAG 'Verification of gas protection systems' [4] and BS 8485: 2015 [5];
- Details of materials taken off-site and associated records (e.g. including Waste Transfer/Consignment Notes);
- Imported material for subsoil and topsoil testing data;
- Pile arising test data;
- Photographic records for progression of site works;
- Site plans;
- U1 exemption permit;
- Asbestos clearance certificates;
- On site contamination testing of stockpiled material data;
- Annotated drawing demonstrating cut volume for relocation of material on site; and,
- Up to date topographical survey, specifically showing altered site levels for sub soil and top soil application across site.

2. Site Setting

2.1. Site Summary

A summary of the historical and environmental setting of Temple Park from the Phase 1 Geo-Environmental Desk Study [1] is presented in Table 2-1 below.

Table 2-1 Summary of Historical and Environmental Site Setting

Site Location:	The site is located to the south of John Reid Road (A1300) in South Shields, NE34 8QN (Appendix A – AD6177-02A).
Site History	Historically, the site was agricultural land, part of a golf course, then part of the Memorial Park until development of the southern part of the current leisure centre c.1980's with the northern extension by the early 1990's. Between the 1950's and 1990's the site and the surrounding area has been subject to licensed landfilling.
Published Geology	Made ground Superficial deposits – Pelaw Clay Member, and Glacial Till. Bedrock – Pennine Middle Coal Measures
Mining	The site is located in a Coal Mining Reporting Area with the eastern periphery of the site located in a High-Risk Development area associated with coal seams and potential shallow workings. No mine entries are reported to be present at or within 20m of the site boundary.
Hydrogeology	Unproductive Strata – Pelaw Clay Member. Secondary (Undifferentiated) Aquifer – Glacial Till. Secondary A Aquifer – Pennine Middle Coal Measures The site is not located in a Groundwater Source Protection Zone. No groundwater abstractions were recorded on or within 1km of the site. Shallow groundwater was limited and encountered generally at the base of made ground on site during previous ground investigations.
Hydrology	Historically, a watercourse was located immediately east of the site which may have been culverted or infilled. There are no other significant surface waters located in proximity to the site. The nearest surface watercourse being an un-named stream located approximately 200m west of the site.

2.3. Summary of Ground Conditions

Ground conditions described below are based on ground investigation by Dunelm (1973) and Solmek (2012), as reported in the Remediation Statement [2]:

Table 2-2 Summary of Ground Conditions Encountered for the Redevelopment Area

Stratum	Thickness (m)	Description	Comments/ detail
Dunelm Drilling (1973): 6 no. boreholes			
Made Ground	2.1 - 2.4	Hardcore, soil, domestic waste, clay and ash.	Water noted at base of made ground
Pelaw Clay / becoming Glacial Till (clay) at depth	2.4 - 12.0	Soft and firm grey silt and sandy clay, locally with occasional thin layers of gravel.	Water noted at 5.0m bgl in one location.
Solmek (2012): 3 no. boreholes			
Made Ground	0.5 - 1.35	Gravelly Clay, sandstone, brick, limestone, occasional glass fragments and slag and fabric.	Made Ground was found to be thickest to the east of the leisure centre
Glacial Till	7.4 - 13.1	Firm to stiff thinly laminated Clay.	No groundwater observed
Pennine Middle Coal Measures	> 0.4 - >1.15	Weathered sandstone (yellow brown gravelly Sand)	No groundwater observed

2.4. Summary of Pre-Remediation Risk Assessments

The following section summarises the findings of the risk assessments undertaken by others to determine if the site development poses a significant risk to human health, controlled waters and / or property.

2.4.1. Redevelopment Area

Chemical data provided in the 2012 Solmek report, rescreened by Atkins, for a residential without plant uptake end use (as a conservative estimate) did not highlight any exceedances of potential contaminants of concern. Asbestos was also not identified in the soil samples analysed.

2.4.2. Surrounding Area

The 2009 intrusive investigation and assessment by Sirius concluded the following for the Temple Memorial Park area:

- There is a potential risk to human health associated with Polycyclic aromatic hydrocarbons (PAHs) (benzo(a)pyrene) and asbestos within shallow soils;
- No significant risk to controlled waters or ecological receptors;
- Asbestos was present associated with imported soils for the playground area; and,
- Potential risk to structures/utilities from aggressive ground conditions and hydrocarbon contamination.

It should also be noted that the findings of the Shadbolt Environmental investigation in 2013 [6] of the adjacent sports pitch (southeast of the redevelopment area) identified asbestos and the report recommended the works be undertaken with awareness of the presence of asbestos. Hydrocarbon staining within the Made Ground was also noted. The proposed new service runs are proximal to this area.

2.4.3. Summary of Ground Gas Risk Assessment

Gas monitoring was carried out during the 2009, 2011 and 2012 investigations both on and in proximity to the site. A summary of the findings of these investigations are presented below:

- **2009** – Work undertaken by Sirius determined there was a ground gas risk from landfill materials in the east and south of the wider Temple Memorial Park site but no significant gas sources in the central or western parts the Temple Memorial Park site which includes the area of the leisure centre.
- **2011** - supplementary window sample boreholes with monitoring wells were installed by Sirius followed by ground gas monitoring. The site was divided into three gas zones (Zones 1 to 3) for assessment, with the leisure centre being on the boundary of Zones 1 and 2. Peak gas concentrations were recorded for Zone 1 (72% methane, 27% carbon dioxide, 4.2ppm VOCs) and a maximum flow for Zone 2 (11l/h). Assessment by Sirius was undertaken using the NHBC traffic light system for the risk of offsite migration to adjacent residential properties, which was determined to be red (high risk) for Made Ground to Amber 1/Green associated with pathways in the natural strata for Zones 1 and 2. The leisure centre as a receptor was discounted from the assessment due to the assumption that it contained existing acceptable gas protection measures.
- **2012** - Solmek undertook additional ground investigation works and subsequent gas monitoring. The report did not identify significantly elevated ground gases during the monitoring period (max. methane <0.1%, carbon dioxide 0.7%) with no significant flows of gases recorded. They concluded that the site was classified as Characteristic Situation 1 (CS1) very low risk and no precautionary measures were required based on CIRIA C665 [3]. However, this conclusion is based on a limited amount of gas monitoring data and for the purpose of these works, the gas situation should be considered as per the 2011 situation.

Atkins were informed that the current leisure centre foundation incorporates gas protection mitigation measures including a bespoke gas membrane and gas alarm, although this hasn't been verified by Atkins. A plan for the leisure centre, dated 1975 illustrated that a visqueen 1000 dpm membrane may be present. A gas alarm system was located on site however it was considered that this was associated with the sites use as a pool facility and potentially installed to detect chlorine gas within the pool area.

To date, ground investigations undertaken at the site and the current excavations and piling has not located any material in the vicinity of the pool area and immediate surroundings that has contained material indicative of landfilling activity. Made ground was located at site to depths of 2.40m BGL.

3. Remedial Objectives & Verification Strategy

3.1. Overview of Development Works

Previous investigations carried out at the site and updated risk assessments have not concluded significant risk to human health or Controlled Waters receptors at site.

It is understood that the redevelopment works were as follows:

- Demolition works and removal of surface hard standing including old foundations, ground slabs and roadways as shown on Drawings AD 6177/10B and 11B and AD5069/010 – July 2011 (Appendix A);
- Crushing and screening of all brick and concrete with sorting for reuse in the main works;
- Infilling of the old swimming pool with suitable site won materials and imported material (if required);
- Ground re-profiling works including excavation, screening and sorting of excavated materials. Place into specific stockpile types and designate for appropriate reuse in the works subject to suitability;
- Piling with construction of new gable wall as per Drawing AD 5069/033 – 6/09/12 (Appendix A);
- New services corridors as shown on Drawing AD 6167 (5) 01 – Oct 17;
- Development of required gas mitigation requirements for incorporation within the proposed new wall and service trenches as detailed on Drawing AD 5069/033 – 6/09/12; and,
- Associated landscaping works on Drawing AD 5069/032 – 17/08/2012..

3.2. Remedial Strategy

3.2.1. Summary of Unacceptable Risks

A review of the available information and development of the Conceptual Site Model (CSM) and preliminary risk assessment (PRA) as reported in the Atkins Phase 1 Land Contamination report 2017 [1], indicates that the following were considered as potential constraints to the proposed development:

- Asbestos both within the existing structures and Made Ground (Moderate Risk);
- Risk to human health associated with the presence of contaminated ground associated with landfilling activities and past historical site use; including hydrocarbons (Moderate/Low Risk); and
- Ground Gas and soil vapours associate with presence of Made Ground across the site (Moderate Risk).

The remediation strategy document addresses the above risks with further details in the following sections. The Remediation Strategy should be referred to for details.

3.2.2. Soil Re-use Screening Criteria

Verification testing of all soils intended for reuse or all soils imported to site should be assessed against the testing suites and sampling frequency recommended in a guidance document produced by the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG) [7], as outlined in the Table below.

Table 3-1 –Soil Sampling and Testing Suite Frequency

Soil Type	Testing Criteria
Imported top soil and subsoil Topsoil to be imported from a topsoil supplier and tested at a rate of 1 sample per 250m^3 or a minimum of 3 no. tests per source.	Based on the design shown on Drawing AD 5069 032 Proposed External Works Section A-A (Appendix A), on completion of the infilling of the swimming pool with demolition arisings, it was proposed that the soil cover system comprise a minimum of 300 to 400mm depth of clay subsoil and 300mm of topsoil. A geotextile was to be placed beneath this cover to act as a marker layer to delineate reused site won materials and field drains will prevent the area becoming waterlogged. Topsoil shall be to BS 3882 (2015) as appropriate or as specified by the Landscape Architect. All soils shall be free of asbestos and other deleterious and or contaminated materials. Initial testing shall comprise the following: • Metals suite (Arsenic, water soluble Boron, Cadmium, Chromium (VI and total), Copper, Mercury, Nickel, Lead, Selenium and Zinc) • Inorganic suite (pH, 2:1 soluble Sulphate) • Soil organic matter • Asbestos screen • TPH CWG Aliphatic/Aromatic • Phenol • PAH USEPA16 Suite Additional testing shall be to BS 3882 (2015) [8] as appropriate or as specified by the Landscape Architect.
Crushed hardcore, stone and brick Validation testing of these materials shall be undertaken at a rate of 1 sample per 1000m^3.	All demolition materials will be crushed and stockpiled to be assessed for suitability for reuse in the works. The excavated material in the service trenches will be sampled and assessed for suitability for reuse elsewhere within the development. All materials will comply with the reuse criteria as presented in Appendix B of the Remediation Statement. All soils shall be free of asbestos and other deleterious and or contaminated materials. Initial testing shall comprise the following dependent on re-use: • Metals suite (Arsenic, water soluble Boron, Cadmium, Chromium (VI and total), Copper, Mercury, Nickel, Lead, Selenium and Zinc) • Inorganic suite (pH, 2:1 soluble Sulphate) • Soil organic matter • Asbestos screen • TPH CWG Aliphatic/Aromatic • Phenol • PAH USEPA16 Suite Materials re-used on site may not require testing if another suitable method (i.e capping/cover system) is considered to break any pollutant linkages.
Excavated materials for reuse Validation testing of these soils shall be undertaken at a rate of 1 sample per 100m^3 or a minimum of 6 no. tests per source area.	

A watching brief should be undertaken at the point of excavation to visually inspect the materials for evidence of contamination. All materials visibly impacted by contamination or odour i.e. materials displaying indications of impact from oil, fuels or solvents or asbestos shall be segregated in a sealed stockpile area, tested and removed from site to appropriately licensed facilities.

3.2.3. Ground Gas

So that the demolition of the swimming pool building and construction of the new gable wall does not create additional migration pathways for ground gases a gas membrane will be incorporated and

joined to the existing and tied into the new gable wall. The proposed slab general arrangement including gas protection and details for the new gable are shown in drawing AD 5069 033 (Appendix A). The proposed gas protection measures included a Visqueen gas membrane to wrap fully around below ground foundations on all buildings. The proposed membrane should comprise:

- Sufficiently impervious sheet material and sealing. Methane gas emissions <40.0ml/day/m2 is considered sufficient.
- Sufficiently durable to remain serviceable for building lifetime.
- Sufficiently strong to withstand installation and in-service stresses (eg settlement). Example: LDPE (virgin polymer) membrane with minimum mass 370g/m^2 and +0.4mm thick. Consider additional barriers and protection layers.
- Capable of providing barrier to entry after installation.

All building penetrations (services and piles etc) should include appropriate top hats/membrane lapping and taping so that they do not provide a pathway for ground gases into the building.

The Contractor is to employ a suitably qualified person to undertake and validate the installation of the gas mitigation measures for the new gable wall, including records of inspection and a photographic record to be provided in the verification report.

3.2.4. Unexpected Contamination

Where additional unexpected contaminated materials and/or previously unidentified materials were encountered during the remediation and construction works, works were temporarily ceased to enable inspection (and testing if necessary) by a suitably qualified geo-environmental engineer. The area was then fenced off and made safe until the South Tyneside Council and the Environment Agency have been contacted and a strategy for dealing with the contamination agreed. This is required if domestic waste is identified during the construction works.

The Contractor shall employ a suitably qualified person to carry out a watching brief on completion of demolition works to determine the presence of contamination beneath the former building associated with use for chemical storage and any leakage from boiler/plant rooms.

3.3. Verification Strategy

The remedial strategy indicated that the verification report should be prepared in accordance with CLR11 [9] to show compliance with remediation objectives and criteria during the site preparation phase. The verification report includes:

- Background information – project and site details, employers' requirements and remediation objectives,
- Remediation – programme of works, methodology, environmental control measures, chemical testing results, priority contaminants;
- Final site conditions i.e. an account of the state of the site following completion of the site works
- Third party contacts – correspondence with STC/Tolent, site visits, statutory guidance, third party agreements;
- Supporting information – plans, as–built drawings, progress photographs and reports, analytical results, Health and Safety, copies of laboratory results, waste transfer notes/consignment notes;
- Details of any unexpected contamination encountered;
- Details of ground gas protection measures;
- Volume of material exported to landfill; and
- Volume and quality of imported and / or re-used material including verification and volumes etc.

4. Verification

4.1. Materials Management

4.1.1. Summary of Materials Management

It was proposed that the main works on site would involve the demolition of Temple Park Leisure complex pool facility in order to redevelop the site into an area of public open space. Demolition was completed in four phases involving initial stripping of internal fixtures for salvaging due to historic or public interest value. Demolition commenced with the installation of adequate temporary titan prop roof supports before separation of the buildings. On completion of separating the buildings from the main retaining wall, demolition commenced on the dry side of the pool area. Material generated from the initial demolition phases was utilised within piling mats along the retaining wall with surplus material removed from site.

It is understood that the excavation and re-use of material on site would be primarily to back fill the pool footprint prior to installation of an appropriate geotextile/hard dig layer and addition of adequate capping through mix of subsoil and topsoil imported into site. It was not possible to re-use all site-won material therefore some material was removed off site between December 2018 and May 2019.

Photographic evidence has been provided to show continuation of works at site in Appendix E.

4.1.2. Information provided by Tolent

It is understood that Tolent and a clerk of works appointed by STC undertook a watching brief on-site for the duration of the works. Evidence of the works undertaken by Tolent (or their subcontractors) provided to Atkins includes:

- WAC testing carried out on stockpiled material (Appendix D).
- Testing undertaken on imported material from stockpiles and for topsoil and subsoil – Newburn, Ex Hexham and Bellways (Appendix D).
- Evidence of movement of material off site to appropriate licensed disposal facility in the form of waste transfer notes and consignment notes (Appendix C).
- Asbestos clearance pass certificates, Lucion Environmental (Appendix D).
- U1 exemption registration details for MGL Ltd. (Appendix B).
- Photographic Record works carried out on site (Appendix E).
- Piling Risk Assessment (Appendix G).
- As built survey drawings showing elevations for imported topsoil and subsoil (Appendix A).

4.1.3. Materials for Off-Site Disposal

Material associated with the demolition of the pool and associated features and pile arisings were transferred off site. Available waste transfer and consignment notes provided by Tolent are presented in Appendix C. A summary of materials transferred off-site and taken from MGL Demolition Health and Safety File [10] are shown in Table 4-1 below:

Table 4-1 – Material Movement Summary (Off-Site)

Material	Weight (tonnes)	Waste Destination
Concrete	4932.74	MGL Demolition Ltd.
Inert	386.5	MGL Demolition Ltd.
Mixed metal	437.92	EMR
Timber	7.48	Timberpak Ltd.
Soil	18.18	MGL Demolition Ltd.

Mixed construction and demolition waste	141.28	MGL Demolition Ltd. Octagon Green Solutions Ltd Stonegrave Aggregates Ltd Suez Recycling and Recovery Veolia ES (UK) Ltd.
Insulation materials containing Asbestos	38.52	Augean Treatment Ltd. Alab Environmental Services Ltd.
Biodegradable waste	1.3	Evt Dipton
Fluorescent Tubes	0.1	William Tracey Ltd.

4.1.4. Materials Re-used on Site

During the enabling works undertaken in January 2019, materials were removed from shallow excavations for the site compound, the laydown area and footpath areas. The material comprised a clay matrix with stones and construction waste, there were no obvious evidence of asbestos or domestic waste. The excavated materials (circa 100m^3) were stockpiled on site (in one stockpile) and subject to sampling and chemical analysis. The sampling was undertaken by Dunelm Ltd, they collected three samples (FP1, FP2 and FP3) from the stockpiled materials. The samples were analysed by DETS Ltd, subcontracted from Dunelm Ltd, for the chemical analysis suite in line with the Atkins' Reuse Criteria, provided as Appendix B to the Remediation Statement.

Except for the presence of asbestos (at 0.001%) in FP2 (recovered from the centre of the stockpile) no other determinants were present in excess of the Atkins Reuse Criteria. The DETS Certificate of analysis is enclosed in Appendix D.

Atkins Technical Note 2 [11], included in Appendix F, stated that given the low percentage of measurable asbestos identified it was considered that the stockpiled material would be chemically suitable for reuse at depth.

4.1.5. Imported Materials

Tolent have provided data on soil import volumes to site concluding 2929.75 tonnes were imported for re-use as topsoil and subsoil. Samples were collected and tested from the source with suites as per BS 3882: 2015 [8] and testing suites as noted in Section 3.2.2 above.

Atkins used public open spaces generic assessment criteria as an indicative screen of test data provided by Tolent. The contamination sampling results provided by Tolent and the screening of the chemical results by Atkins is provided in Appendix D. The table below provides a summary of material testing carried out on imported topsoil and subsoil:

Table 4-2 – Material Testing Summary

Soil Type	Excavated from	Proposed re-use	Samples Taken	Soil Re-use Criteria Assessment	Volume of material imported into site
Subsoil and topsoil	Bellways Homes ex stockpile	Re-used to cover	3	Pass	2929.75 Tonnes
	Newburn Yard Soils stockpile		6	Pass	
	Davison Homes, Hexham stockpile		4	Pass	

4.1.6. Unexpected Contamination

During the enabling works undertaken in January 2019, materials were removed from shallow excavations for the site compound, the laydown area and footpath areas and stockpiled on site. The material comprised a clay matrix with stones and construction waste, timber, mixed metal/scrap, light iron and non-ferrous in addition to general waste. There were no obvious evidence of asbestos or domestic waste. Except for the presence of asbestos (at 0.001%) in FP2 (recovered from the centre of the stockpile) no other determinands were present in excess of the Atkins Reuse Criteria. Given the low percentage of measurable asbestos identified it was considered that the stockpiled material would be chemically suitable for reuse at depth. Further information can be found in technical note TPLC_ Reuse of excavated spoil [11] included in Appendix F. The DETS Certificate of analysis and re-use criteria is included in Appendix D.

4.2. Gas Mitigation Measures

Atkins recommended that gas measures be installed at site along the new gable wall. It is understood that Tolent installed a Visqueen gas membrane with associated jointing utilising Visqueen double joint tape. Atkins recommended that Tolent consider the following on installation of gas measures:

1. New gas barrier lapped on to existing and sealed with Visqueen-pro double-sided jointing tape. Minimum overlap of 150mm.
2. Cast in situ monolithic reinforced ground bearing raft or reinforced cast in situ suspended floor slab with minimal penetrations.

A clerk of works was present on site for the duration of the works and provided a report on installation of the gas membrane at site between 15 and 19 July 2019. Inspections were carried out by the clerk of works from STC. The report, included in Appendix H, stated "*Installation of gas membrane installed as specification apart from connection into existing membrane at joint of existing slab. Existing membrane damaged and missing in places. Gas membrane lapped up face of existing slab and doubled side tape applied. There was no adhesion to slab side. Builders mastic to be applied to top of the joint at later date to seal*". Atkins assumes these points were rectified. Gas membrane documentation is included in Appendix H.

4.3. South Tyneside Council Clerk of Works

An STC appointed clerk of works visited the site regularly during construction to observe general progress and to undertake specific work inspections between December 2018 and July 2019, these are summarised in Table 4-4 below:

Table 4-3 – Inspector visits/works completed on site

Inspection Type	Inspected Dates
Commencement	3 December 2018
Asbestos clearance	11 January to 1 February 2019
Piling	April 2019
Gas membrane installed	15 to 19 July 2019
Demolition	Main works in April to June 2019
Removal of demolition waste and other waste from site	December 2018 to May 2019
Landscaping	Not yet complete due to waterlogging on site. Scheduled for completion in 2020.
Completion	7 June 2019

5. Updated Conceptual Site Model

The post remediation Conceptual Site Model is provided below:

Summary of Sources	Receptor	Potential Pathway	(Consequence/Probability) Classification of Risk
Made Ground associated with historic use as a landfill and on site boiler/plant rooms and chemical stores. .	Human Health: Site end users and workers	Inhalation, ingestion and dermal contact Dust entrained by wind and blown off-site	(Moderate/Unlikely) **Low Risk**: The site is covered with a layer of hardstanding. The building extension has been demolished and material removed to appropriate waste facilities. Material used for backfilling has not exceeded the verification reuse criteria. No new sources of contamination have been encountered and limited visual / olfactory evidence of contamination identified during the works. No evidence of landfill material was encountered during the demolition and piling works on site.
		Migration & inhalation of gas and / or vapours from contaminants. Hydrocarbon impacted soils and / or groundwater affecting services and portable supplies	(Severe/Unlikely) **Low Risk:** Gas protection measures have been installed. Demolition and piling on site have not located any land fill type material in the vicinity of the leisure centre that has been demolished.
		Inhalation of asbestos fibres	(Medium/Unlikely) **Low Risk**: Asbestos located within the building prior and during demolition was removed from site to appropriate waste facility. A small volume of asbestos was located in material stockpiled on site but has been buried at depth with a membrane and adequate cover system above. and removed from site for disposal. limited asbestos fibres were previously encountered within the Made Ground and topsoil/subsoil materials tested (material now buried).
	Possible culverted water course to the east Secondary A Aquifer	Leaching and migration through permeable strata within the Made Ground and Superficial Deposits.	(Medium/Unlikely) **Low Risk**: Material imported on to site to create appropriate landscaping and cover system has passed verification re-use criteria on site. The site is not located within or near source protection zones or similar in respect to controlled waters and no significant ground

Summary of Sources	Receptor	Potential Pathway	(Consequence/Probability) Classification of Risk
		Preferential pathways via underground structures, pipes, and services and piling.	water was located during previous ground investigations. Additional risks reviewed and mitigated in piling risk assessment.

6. Conclusions

Following a desk study, ground investigation and risk assessment, Atkins produced a Remediation Strategy. Atkins were appointed by STC to produce the verification report. STC appointed a clerk of works who was in attendance at site regularly during construction.

Tolent retained responsibility for adhering to the Remediation Strategy, duty of care obligations, undertaking verification sampling and collating the appropriate records to demonstrate compliance, including a watching brief (visual and olfactory screening) and sampling of imported material.

The demolition activities on site generated material for re-use (backfilling the location of the pool) and disposal off-site. The MGL report [10] stated excavations generated approximately:

- 5,925.40T of non-hazardous waste for offsite disposal / reuse 1% of which was sent to landfill.
- 38.62T of hazardous waste was sent off site to landfill.
- 100m^3 excavated for re-use as detailed in Technical Note 2.

A total of 2929.75T of topsoil and subsoil was imported for use on site as part of a cover system [10].

Evidence of general adherence to the ethos of the remediation strategy has been provided to Atkins through a series of records presented in the appendices. This includes waste transfer notes, consignment notes, photographs, Asbestos removal reports and laboratory certificates from sample analysis.

Atkins consider that for materials re-used on-site, the frequency was adequate for a low risk site and material was suitable for re-use as backfill of the pool area, capped with membrane, subsoil and topsoil.

Following the works and review of all information provided, the overall risk for the site remains unchanged and is considered low for human health and controlled waters receptors.

This report should be submitted to the Local Authority's Planning Office with the aim of seeking their approval of the remedial works that were undertaken.

7. References

[1] Atkins, *Temple Park Centre, South Shields -: Phase 1 Land Contamination Assessment,* 2017.

[2] Atkins, *Temple Park Centre, South Shields - Remediation Statement,* November 2017.

[3] CIRIA, *C665, Assessing Risks Posed by Hazardous Ground Gases to Buildings,* 2007.

[4] YALPAG, *Guidance on verification of gas protection systems, Version 1.1,* December 2016.

[5] BSI, "BS8485: 2015+A1:2019 - Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases in New Buildings," 2019.

[6] Shadbolt Environmental, "Temple Park, Football Pitch Refurbishment, Ground Investigation Interpretative Report," 2013.

[7] YALPAG, *YALPAG (Yorkshire and Lincolnshire Pollution Advisory Group) Verification Requirements for Cover Systems, Technical Guidance for Developers, Landowners and Consultants, Version 3.4,* November 2017.

[8] BSI, Specification for topsoil (BS 3882:2015), 2015.

[9] Environment Agency, CLR11: Model procedures for management of land contamination, 2004.

[10] MGL Demolition, "Health and Safety File, Temple Park".

[11] Atkins, "Technical Note 2: Re-use of Excavated Soils and Template Park," 2019.

[12] CL:AIRE, The Definition of Waste: Development Industry Code of Practice, London: Contaminated Land: Applications in Real Environments, 2011.

[13] YALPAG, *Development on Land Affected by Contamination, Technical Guidance for Developers, Landowners and Consultants, Version 9.2,* March 2018.

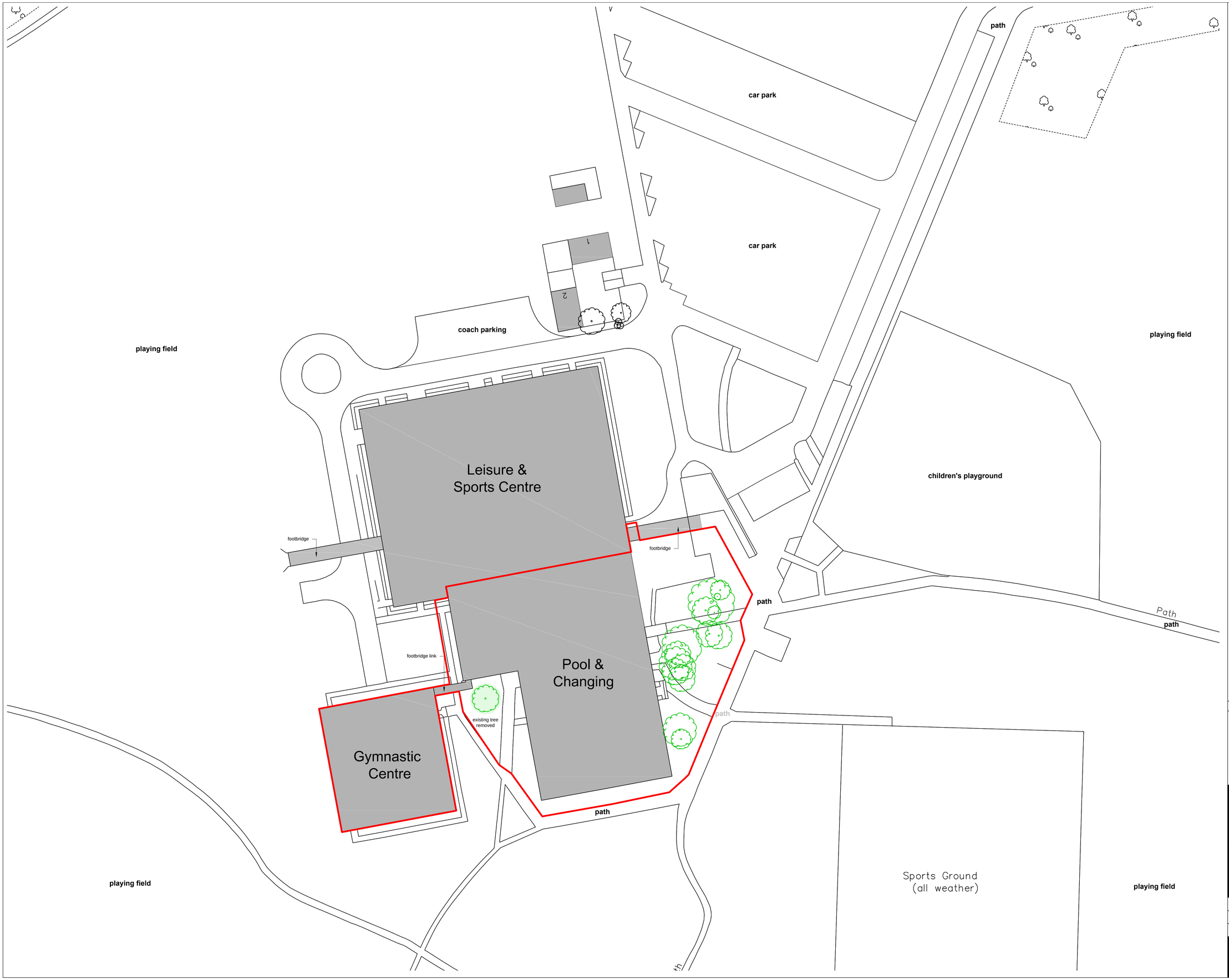
[14] E. Agency, 2017. [Online]. Available: https://www.gov.uk/guidance/waste-exemptions-using-waste. [Accessed March 2019].

[15] B. 8. +A1, *Code of Practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings.,* 2015 +2019.

Appendices



Appendix A. Drawings



ISSUED FOR TENDER

Rev	Date	Description	Chkd
A	06.10.17	Drwg created for 2017 scheme proposal - SAR	IS

South Tyneside Council
Economic Regeneration

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Gordon House, Gordon Street, South Shields, Tyne & Wear, NE33 4JP
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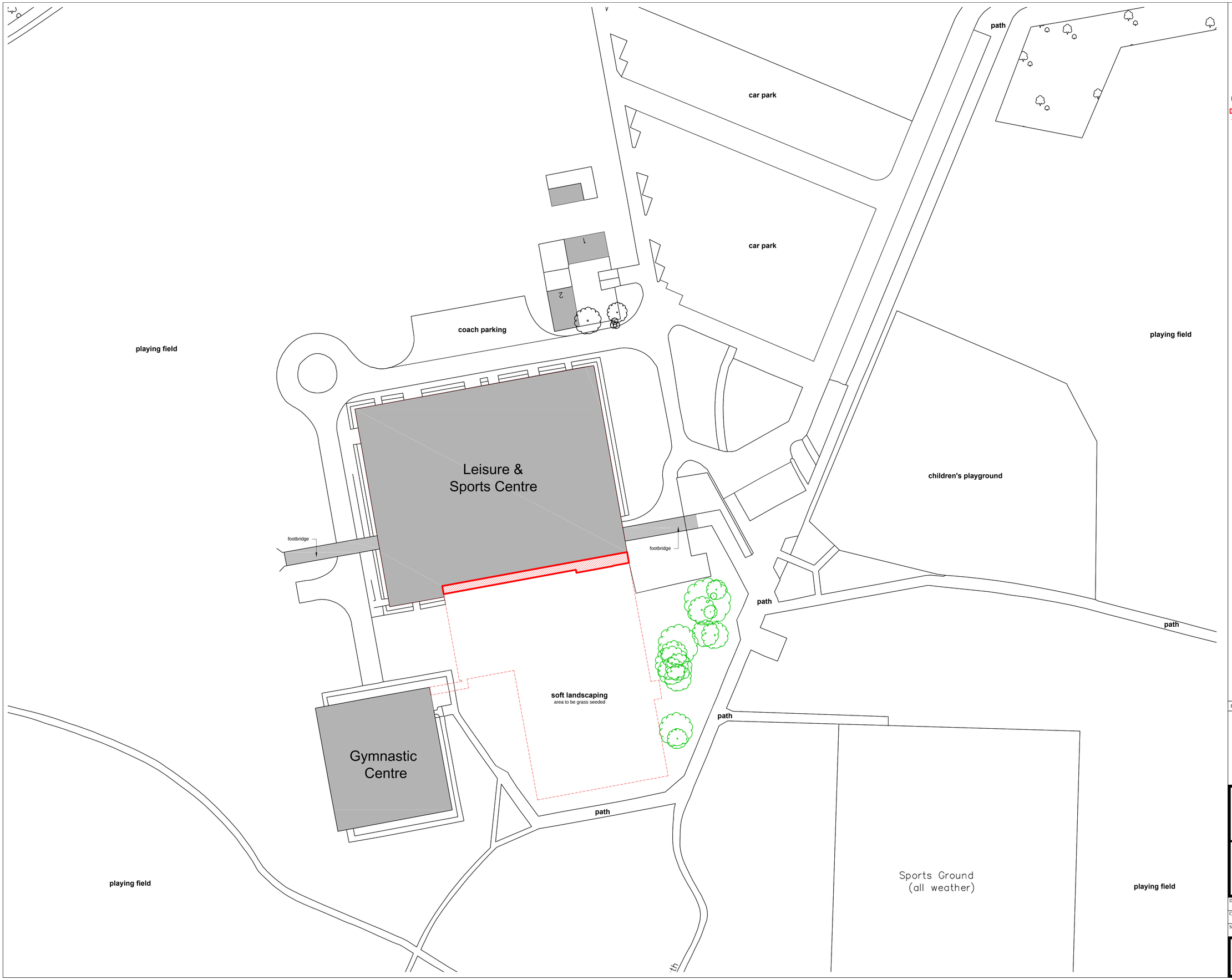
Project
Swimming Pool Demolition
Temple Park Leisure Ctr.,
South Shields, NE34 8QN

Drawing Title
Existing Site Plan

Drawn by	SAR	Date	27.09.17
Checked by	IS	Date	--/--/--
Scale	1:500	Size	A1

Project Code: AD 6177

Drawing Number: 02A



ISSUED FOR TENDER

Rev	Date	Description	Chkd
A	06.10.17	Drwg created for 2017 scheme proposal - SAR	IS

South Tyneside Council
Economic Regeneration

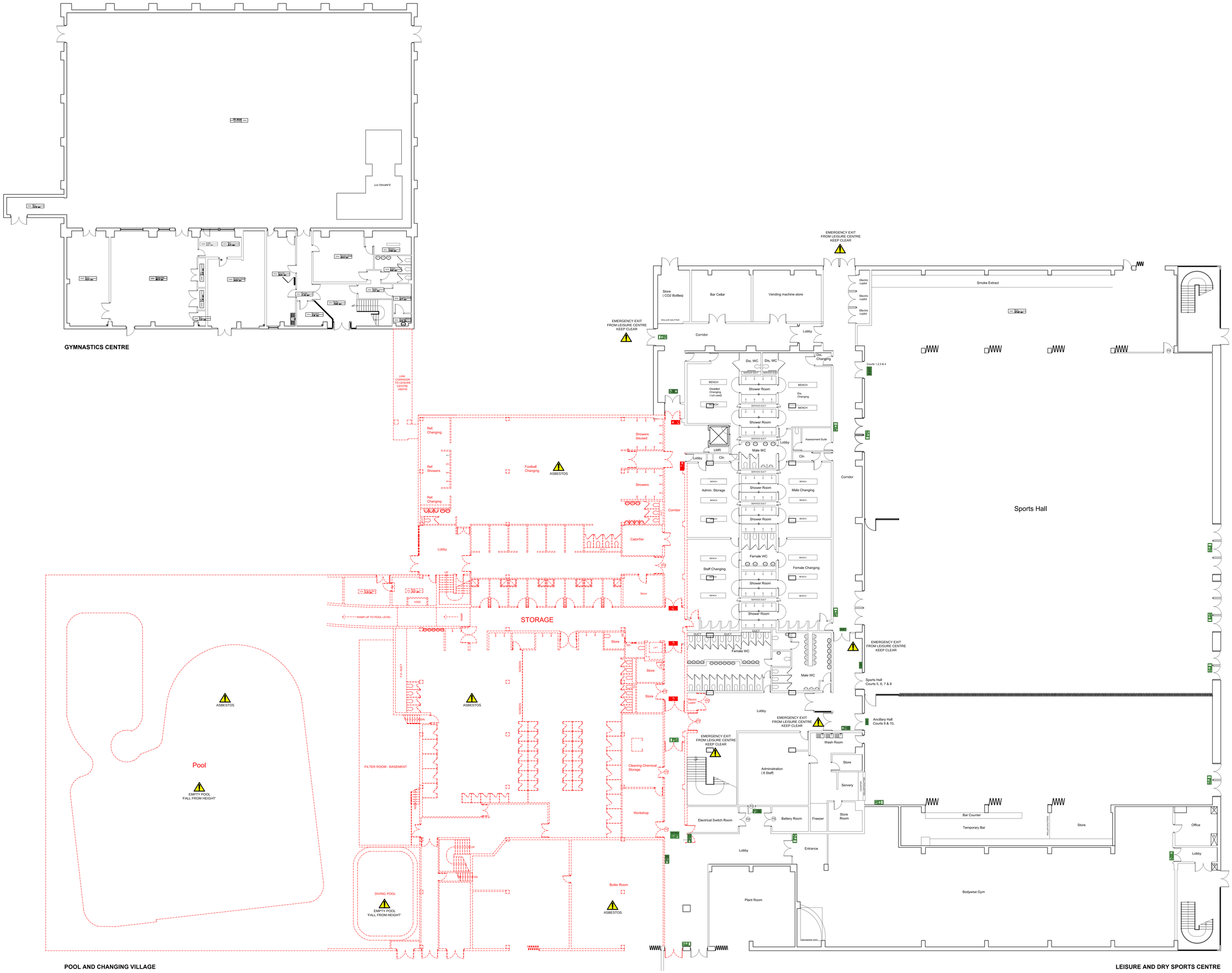
David Cramond - Corporate Director
Gordon House, Gordon Street, South Shields, Tyne & Wear, NE33 4JP
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Project
Swimming Pool Demolition
Temple Park Leisure Ctr.,
South Shields, NE34 8QN

Drawing Title
Proposed Site Plan

Drawn by	SAR	Date	27.09.17
Checked by	IS	Date	--/--/--
Scale	1:500	Size	A1

Project Code	Drawing Number
AD 6177	03A



LEGEND

Existing Building Completely Demolished

GENERAL DEMOLITION NOTES

1. The client reserves the right to salvage any items identified to be removed. At the beginning of demolition work the clients representative shall identify all items to be salvaged.

2. Deconstruction / demolition work shall be performed in an orderly fashion. All necessary precautions shall be taken to protect existing retained structures, facilities and finishes from damage during the works.

3. All demolition and construction debris with the exception of rubble which is to be recycled as hardcore fill shall be removed by the contractor through an authorised waste contractor.

4. Principal Contractor shall prepare a demolition work plan for review by the owner. Use only building access points that are approved by the Client.

5. Contractor shall reconstruct, repair or replace ceilings, floors or walls that are disturbed above, below or around demolition area. All work/finishes shall match existing.

6. Provide temporary works as deemed necessary to shore up any buildings / structures adjacent to the demolition area.

7. Principal Contractor shall weatherproof any surfaces of an adjacent building that are exposed by the demolition.

8. Repair and make good any damage to an adjacent buildings / structures caused by the demolition or by the negligent act.

9. Disconnect and seal, at such points indicated on the drawings, any sewer or drain in or under the building.

10. Make good to the satisfaction of the client the surface of the ground disturbed by the works.

11. Make arrangements with the client's representative, relevant for the isolation/disconnection of the supply of gas, electricity and water to the building.

ASBESTOS

Asbestos contained materials (ACM's) have been identified in the building / structures to be demolished. Refer to the following reports below for details:

1. Lucion Asbestos Pre-Demolition Survey Report reference 223867 dated 10.11.17 and accompanying drawings (5No.)

2.Temple Park Leisure Centre Asbestos Register dated 8.5.17

3. OHS survey report B-66870 dated 4.11.11

4. OHS survey report (Gymnastics Block) B-66869 dated 3.11.11

ECOLOGY AND HABITAT

Before starting deconstruction / demolition work, refer to the Ecology report contained within the Tender Documentation. Principal Contractor to abide by any recommendations contained in the surveyor's report.

ISSUED FOR TENDER

Rev	Date	Description	Chkd
B	15.01.18	Notes added to Dreg - SAR	IS
A	27.09.17	Dreg amended to reflect 2017 scheme proposal - SAR	IS

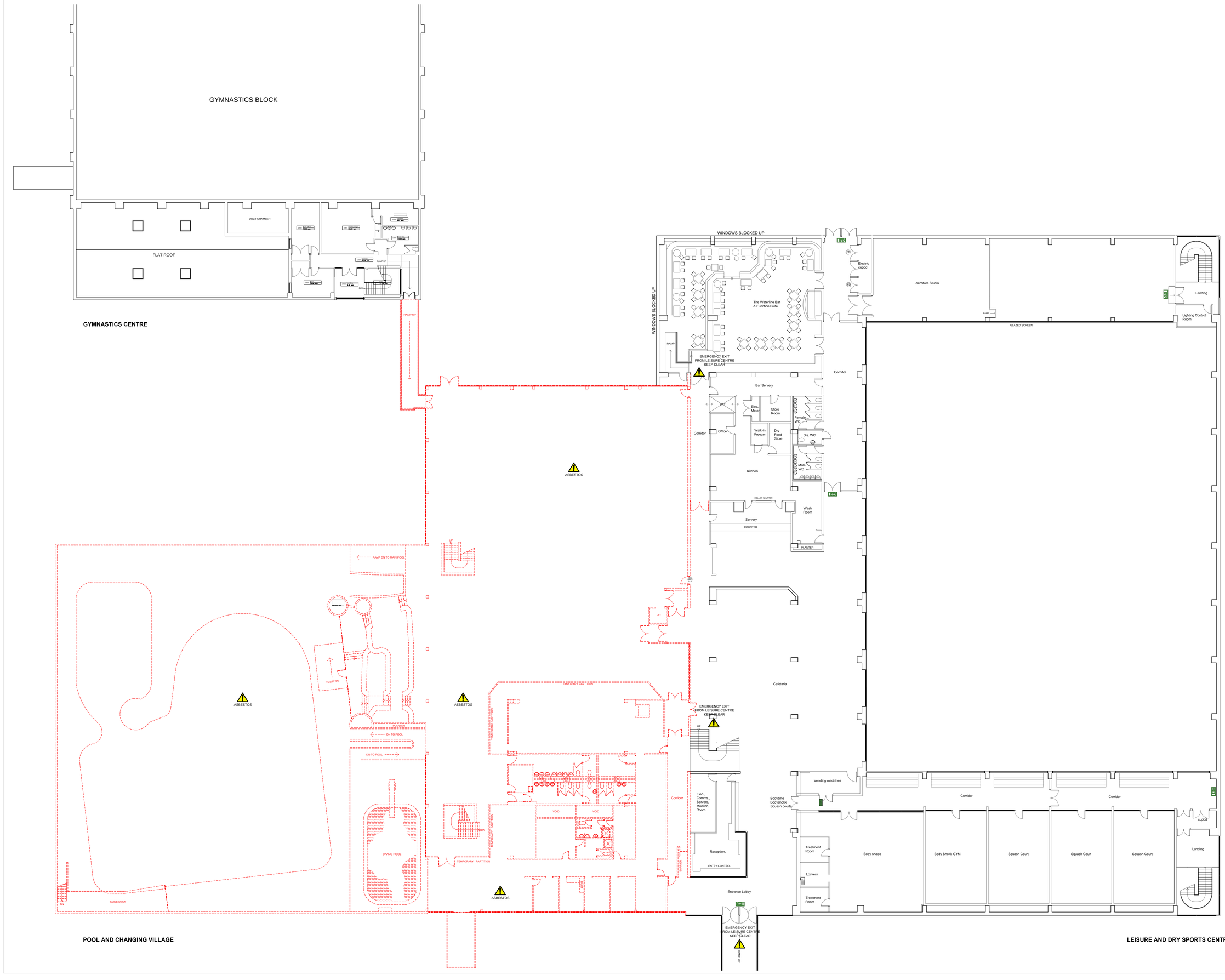
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Project
Swimming Pool Demolition
Temple Park Leisure Centre
South Shields

Drawing Title
Demolition Plan
Level 1

Drawn by	XX	Date	July 2011
Checked by	XX	Date	--/--/--
Scale	1:125	Size	A0

Project Code	Drawing Number
AD 6177	10B



LEGEND

Existing Building Completely Demolished

GENERAL DEMOLITION NOTES

1. The client reserves the right to salvage any items identified to be removed. At the beginning of demolition work the clients representative shall identify all items to be salvaged.

2. Deconstruction / demolition work shall be performed in an orderly fashion. All necessary precautions shall be taken to protect existing retained structures, facilities and finishes from damage during the works.

3. All demolition and construction debris with the exception of rubble which is to be recycled as hardcore fill shall be removed by the contractor through an authorised waste contractor.

4. Principal Contractor shall prepare a demolition work plan for review by the owner. Use only building access points that are approved by the Client.

5. Contractor shall reconstruct, repair or replace ceilings, floors or walls that are disturbed above, below or around demolition area. All work/finishes shall match existing.

6. Provide temporary works as deemed necessary to shore up any buildings / structures adjacent to the demolition area.

7. Principal Contractor shall weatherproof any surfaces of an adjacent building that are exposed by the demolition.

8. Repair and make good any damage to an adjacent buildings / structures caused by the demolition or by the negligent act.

9. Disconnect and seal, at such points indicated on the drawings, any sewer or drain in or under the building.

10. Make good to the satisfaction of the client the surface of the ground disturbed by the works.

11. Make arrangements with the client's representative, relevant for the isolation/disconnection of the supply of gas, electricity and water to the building.

ASBESTOS

Asbestos contained materials (ACM's) have been identified in the building / structures to be demolished. Refer to the following reports below for details:

1. Lucion Asbestos Pre-Demolition Survey Report reference 223867 dated 10.11.17 and accompanying drawings (5No.)

2.Temple Park Leisure Centre Asbestos Register dated 8.5.17

3. OHS survey report B-66870 dated 4.11.11

4. OHS survey report (Gymnastics Block) B-66869 dated 3.11.11

ECOLOGY AND HABITAT

Before starting deconstruction / demolition work, refer to the Ecology report contained within the Tender Documentation. Principal Contractor to abide by any recommendations contained in the surveyor's report.

ISSUED FOR TENDER

Rev	Date	Description	Chkd
B	15.01.18	Notes added to Dwg - SAR	IS
A	27.09.17	Dwg amended to reflect 2017 scheme proposal - SAR	IS

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Project
Swimming Pool Demolition
Temple Park Leisure Centre
South Shields

Drawing Title
Demolition Plan
Level 2

Drawn by	XX	Date	July 2011
Checked by	XX	Date	--/--/--
Scale	1:125	Size	A0

Project Code	Drawing Number
AD 6177	11B

GYMNASTICS BLOCK

Existing Plinth Demolished complete up to door just beyond SW corner of building

Demolish steel fire escape staircase.

Grub up existing tarmac path.

Existing tree removed.

Grub up existing tarmac path.

Demolish concrete landing with brickwork & handrail.

Grub up existing tarmac path.

Ref. Changing

Ref. Showers

Ref. Changing

Football Changing

Showers disused

Showers

Lobby

Calorifier

Store

STORAGE

VOID

RAMP UP TO POOL LEVEL

Store

Store

Store

Store

Cleaning Chemical Storage

Workshop

Electrical Switch Room

Battery Room

Freezer

Store Room

Lobby

Entrance

Corridor

Lobby

Dis. WC

Dis. WC

Dis. Changing

Shower Room

Shower Room

Shower Room

Male WC

Admin. Storage

Male Changing

Shower Room

Shower Room

Female WC

Staff Changing

Female Changing

Shower Room

Shower Room

Female WC

Male WC

Lobby

Corridor

Assessment Suite

Sports Hall

Sports Hall Courts 5, 6, 7 & 8

Ancillary Hall Courts 9 & 10.

Wash Room

Store

Servery

Administration (6 Staff)

Bar Counter

Temporary Bar

Store

Office

Lobby

Bodywise Gym

Plant Room

Boiler Room

Existing Column part of poolside construction, to be demolished.

For details of breakout and reinstatement of small areas of the existing Phase II slab during foundation works, see Engineer's drawings 5113993 - S - 003 & S - 004. Contractor to take care to avoid damage to existing Gas detection system.

Break out all existing structure in preparation for new piling. For exact locations, see Engineer's drawing 5113993 - S - 001

Break out existing brick paving and expose existing foundations. Build up new brickwork skin from existing foundations and make good to paving, all as shown on drawing AD 5069 040

Carefully break out existing hard landscaping in preparation for new piles and foundations. On completion of below ground works, lay new kerbs and re-lay existing paving as shown on drawing AD 5069 040 For details and positioning of piles and foundations, see Engineer's drawings 5113993 - S - 001 & 002

Carefully take up existing brick paving and keep to one side. Break out concrete Kerb and replace with new kerbs and drop kerbs as shown on drawing AD 5069 040. Re-lay existing brick paving.

Existing retaining wall demolished back to line of new retaining wall. For detail of making good to landscaping, see drawing AD 5069 032.

Break out strips for new drainage in existing tarmac and basecourse, down to freely draining material below. Backfill opening up to a level no higher than 100mm below the Invert Level of the new field drain shown on drawing AD 5069 400 with clean hardcore or crushed concrete, min dia 50mm. See drawing AD 5069 032 for details of new drainage.

Breakout trench widened as necessary to accommodate installation of silt trap. See drawing AD 5069 032 for details of new drainage.

Existing Flue Foundation retained

Line of proposed retaining wall, see drawing AD 5069 032 for details.

New drainage to be fed into existing Manhole

Demolish former Entrance & bridge complete.

Break out strips in Filter room Floor and all structural and waterproofing layers down to freely draining material below. Backfill opening up to level of base of pool with clean hardcore or crushed concrete, min dia 50mm. Ensure break out area is well clear of pile cap locations (shown dotted).

Break out strips in plant/boiler room floors and all structural and waterproofing layers down to freely draining material below. Backfill opening up to level of base of pool with clean hardcore or crushed concrete, min dia 50mm. Ensure break out area is well clear of pile cap locations (shown dotted).

Break out strips in base of pool and all structural and waterproofing layers down to freely draining material below. Backfill opening up to level of base of pool with clean hardcore or crushed concrete, min dia 50mm

Pool

DIVING POOL

FILTER ROOM - BASEMENT

Base of diving pool retained. Demolish Diving pool walls completely down to top of base to avoid water collecting in remaining structure below ground.

Demolish/grub up pipe duct with 600x600 concrete paving over.

Demolish wave machine structure with steel palisade fence and shrubs.

Grub up existing tarmac path.

Take up 600x600mm paving slabs footpath and safety kerb, remove steel tubular handrail grub up sub base.

Voids retained below grubbing up level

Area to be broken out in floor of retained voids to allow drainage

Extent of Diving Pool / lift pit floor and foundation to be retained in situ. Walls of diving pool / lift pit to be demolished down to base to ensure drainage

Area to be demolished complete

Area to be grubbed up.

Area to be grubbed up to a level of 24.90 and all voids filled in with demolished material and covered with Terram 1000 geotextile mebrane.

Area to be grubbed up to a level of 24.50 and all voids filled in with demolished material and covered with Terram 1000 geotextile mebrane.

Area to be grubbed up to a level of 23.69 and all voids filled in with demolished material and covered with Terram 1000 geotextile membrane. Remaining freestanding internal walls in this area to be demolished down to slab level.

Area to be grubbed up to a level of 23.69 and all voids filled in with Type 2 Hardcore and covered with Terram 1000 geotextile membrane.

NB: Pile caps projecting above grubbing out level to be retained and surrounded in fill, up to level 900mm below proposed levels. Report any pile caps less than 900mm below proposed levels to Design team immediately on discovery.

NB: See drawing AD 5069 032 for details of external works, proposed new levels and backfilling materials.

Rev	Date	Description	Chkd
P/T 1	24/10/12	Breaking out for Piling/Foundations shown	

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Project
Remodelling of:-
Temple Park Leisure Centre
South Shields

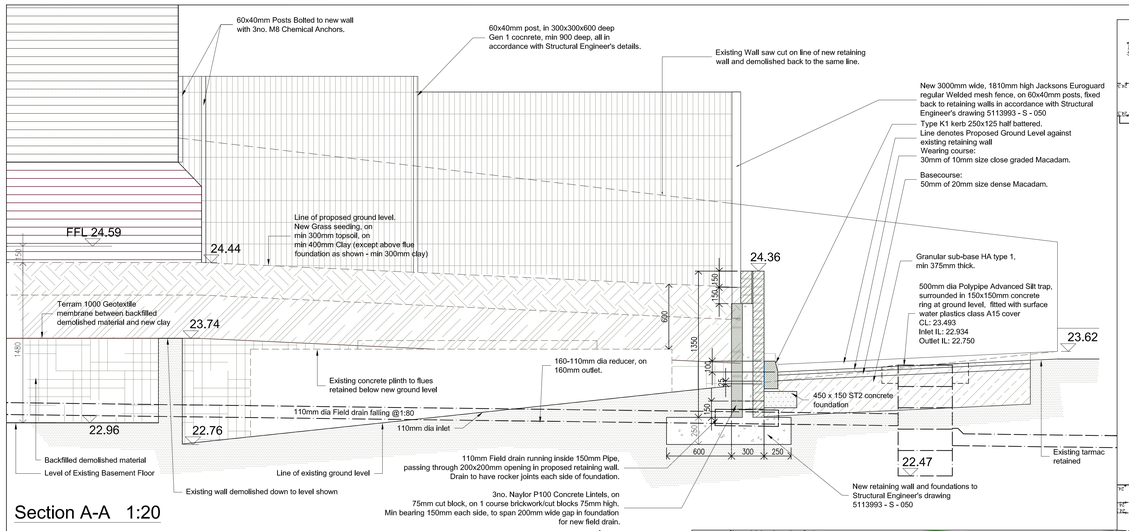
Drawing Title
Area of Demolition Level 1

GROUND FLOOR PLAN - LEVEL 1

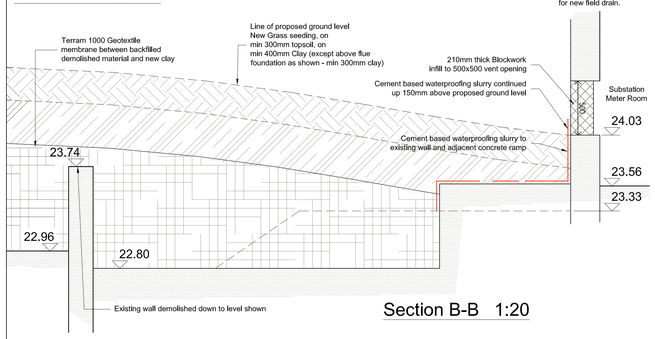
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Checked by	XX	Date	==/==/==
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Project Code: AD 5069

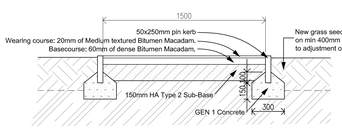
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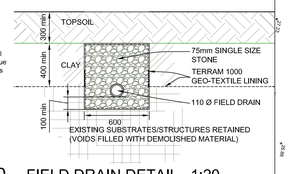
Section A-A 1:20



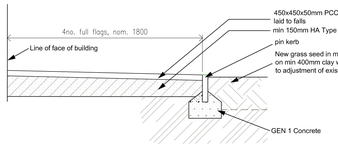
Section B-B 1:20



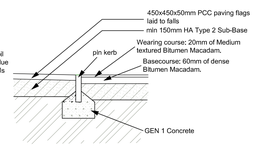
Section C-C 1:20



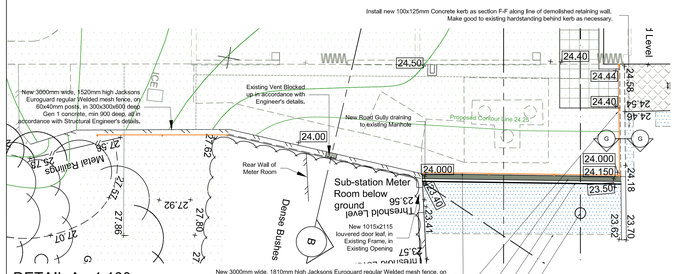
FIELD DRAIN DETAIL 1:20



Section D-D 1:20

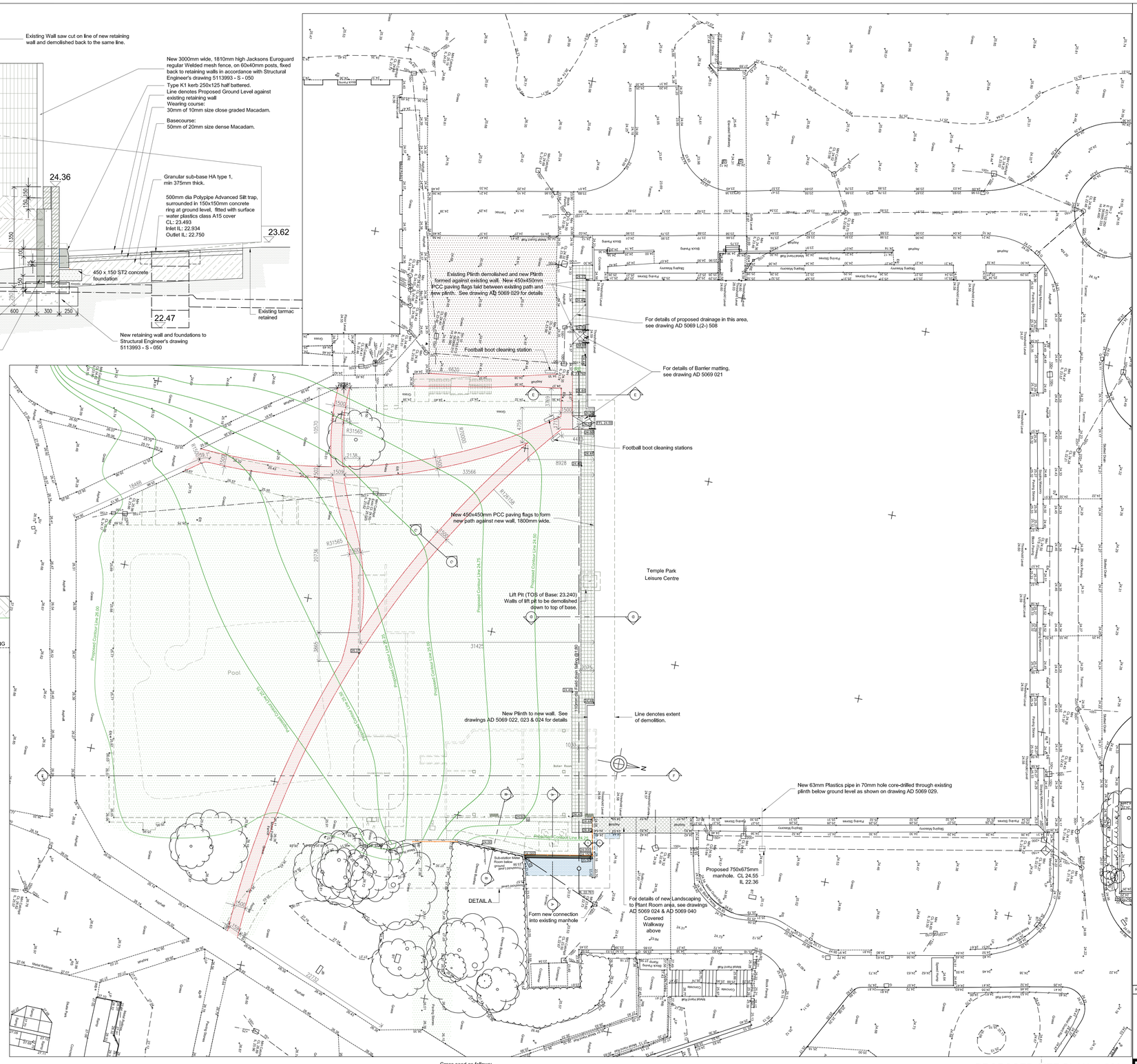


Section E-E 1:20

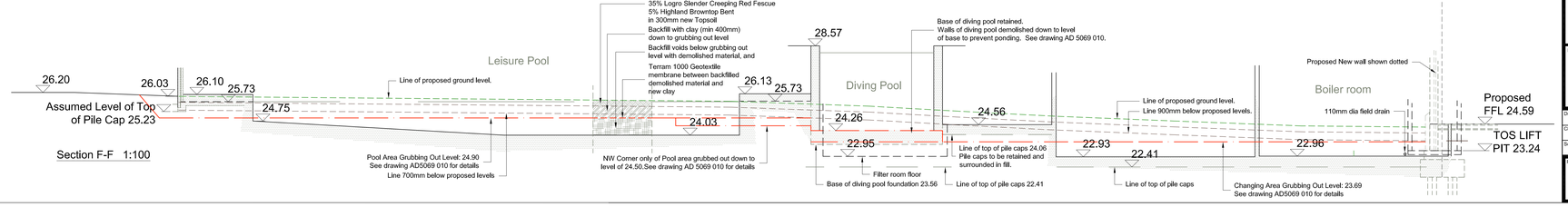


DETAIL A - 1:100

Section G-G 1:20



PROPOSED SITE PLAN 1:200



Section F-F 1:100

NOTE:
All drainage to comply with B.S. 8301 1985 `Building Drainage` and relevant manufacturers instructions on installation

Legend

- Extent of area to be built up to proposed levels with grass seed as note below, in min 300mm new topsoil, Area of demolished structure to be covered by min 300mm topsoil, on min 400mm clay, unless shown otherwise, on Terram 1000 Geotextile membrane,
- New Macadam hardstanding as Section A-A
- New Macadam paths as Section C-C
- Area to be grubbed out on completion of work to a level 300mm below existing levels and reinstated with grass seed as note below, in 300mm new Topsoil such that existing levels are retained.

Note; Grass seed to be as follows;
60% Lorina Perennial Ryegrass
35% Logro Slender Creeping Red Fescue
5% Highland Browntop Bent

24.00 Proposed Level
24.18 Existing Level

Rev	Date	Description	Chkd

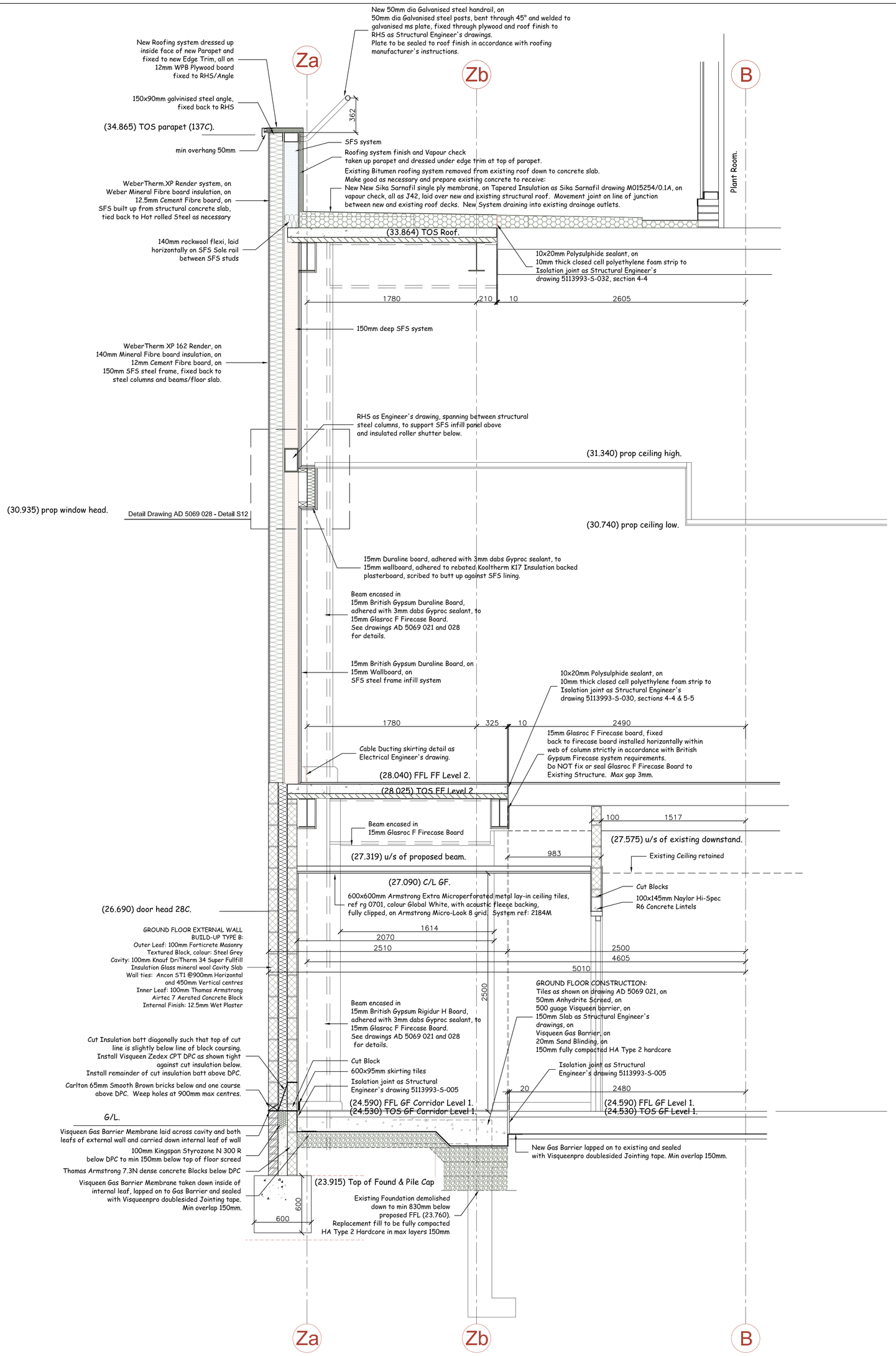
South Tyneside Council
Economic Regeneration
David Cramond - Corporate Director
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Project
Remodelling of: -
Temple Park Leisure Centre
South Shields

Drawing Title
Proposed External Works

Drawn by	JM	Date	17/08/12
Checked by	IRS	Date	17/08/12
Scale		Size	A0

Project Code: AD 5069
Drawing Number: 032



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Project
Remodelling of: -
Temple Park Leisure Centre
South Shields

Drawing Title
Proposed External Wall
- Section B1-B1

Drawn by	Date
JM	06/09/12
Checked by	Date
XX	--/--/--
Scale	Size
1:20	A1

Project Code: AD 5069
Drawing Number: 033

Rev	Date	Description	Chkd

EXISTING GYMNASTIC CENTRE

GYMNASTICS PLANTROOM

EXISTING SPORTS HALL

EXISTING LEISURE POOL

PHASE 1 SWIMMING POOL AND PLANTROOM TO BE DEMOLISHED.

PHASE 1 PLANTROOM

PHASE 2 PLANTROOM

EXISTING PHASE 2 PLANTROOM (TO BE RETAINED)

EXISTING POOL
EXISTING 100mm WATER, 200mm GAS
(TO BE RETAINED UNTIL POOL DEMOLITION)

CONTAINER BOILER
NEW 90mm MDPE GAS, 25mm FLEXELEN MCW CONNECT INTO EXISTING IN YARD, EXTEND BELOW GROUND TO SERVE CONTAINER BOILER.

PHASE 2 LEISURE CENTRE
NEW 90mm MDPE GAS, NEW 90mm FLEXELEN MCW CONNECT INTO EXISTING IN YARD, EXTEND BELOW GROUND TO SERVE CONTAINER BOILER.

NEW 25mm FLEXELEN MCW, 90mm GAS EXTEND TO SERVE CONTAINER BOILER PLANT

NEW CONTAINER BOILER PLANTROOM – SEE HOVAL DETAIL DWG
CONTACT: MARK CLAYTON
TEL – 07976 329 774
QUOTE REF – KPH 101118

EXISTING GAS AND WATER

SERVICES RISE UP IN PHASE 2 PLANTROOM

110mm PRE INSULATED FLEXELEN HTG PIPEWORK EXTEND BELOW GROUND FROM CONTAINER TO CONNECT INTO EXISTING IN

2No 63mm DUCTS
1No POWER
1No BMS, FIRE ALARM, INTRUDER

MANHOLE

Ex 150mm MCWS

Hydrant

Ex 100mm MCWS

Ex 100mm MCWS

Ex 200mm GAS

Gas Syphon Pot

CONTINUES TO GYMNASTICS CENTRE.

CONTRACTOR TO PROVIDE BASE FOR NEW CONTAINER BOILER PLANT. CONTRACTOR TO COORDINATE WITH HOVAL TO ESTABLISH REQUIREMENTS

CONTINUES TO SITE BOUNDARY

SITE SERVICES - CONTAINER PLANT

NOTES

ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS, ARCHITECTS DRAWINGS AND STRUCTURAL ENGINEERS DRAWINGS.

THE CONTRACTOR SHALL NOTIFY THE CONSULTANT ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND TO EXIST BETWEEN THE DRAWINGS AND SCHEDULES.

THE INSTALLATION SHALL BE INSTALLED AND COMPLY WITH ALL CURRENT BUILDING REGULATIONS, CIBSE GUIDANCE, IOP GUIDANCE, BRITISH STANDARDS, GAS SAFE REGULATIONS, HSE GUIDANCE AND AS RECOMMENDED BY THE MANUFACTURERS.

THE CONTRACTOR SHALL OBTAIN AND SATISFY THEMSELVES WITH THE REQUIREMENTS OF THE PROJECT BEFORE SUBMITTING THEIR TENDER PRICE.

THE CONTRACTOR SHALL OBTAIN THE ASBESTOS REPORT AND SATISFY THEMSELVES WITH THE LOCATIONS OF ASBESTOS BEFORE COMMENCING THE WORKS.

ALL PIPEWORK THROUGHOUT THE INSTALLATION SHALL BE FULLY INSULATED TO CURRENT STANDARDS. ALL PIPEWORK IN THE BOILER ROOM SHALL BE FINISHED IN A METAL CLAD WRAP. WITH PIPEWORK TO BE CLEARLY IDENTIFIED.

ALL PIPEWORK/FLUES THAT PENETRATE THE BOILER ROOM WALLS SHALL BE SUITABLY FIRE STOPPED USING ROCKWOOL FIREPRO RANGE.

ALL HIGH LEVEL PIPEWORK SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 2200mm AFFL.

Rev	Date	Description	Chkd

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Project
DEMOLITION OF SWIMMING POOL TEMPLE PARK

Drawing Title
MECHANICAL SERVICES ENABLING WORKS CONTAINER PLANT SERVICES SITE SERVICES

Drawn by	PD	Date	OCT 17
Checked by	XX	Date	--/--/--
Scale	1:250	Size	A1

Project Code	Drawing Number
AD 6167	(5) 01

437150E
437200E
437250E
563950N
563900N
563850N

BUILDING
CAR PARK
LC
SITE BOUNDARY
SITE BOUNDARY
SITE BOUNDARY

24.448
24.462
24.495
24.509
24.482
24.628
24.445
24.528
24.576
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25.607
25.961
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25.855
25.976

MGL EARTHWORKS
PART OF MGL GROUP

MGL Group
Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS
0191 3839900

TEMPLE PARK

TOPSOIL ASBUILT SURVEY

Scale 1:500

10 JAN 20 11:25

437150E

437200E

437250E

563950N

563900N

563850N

BUILDING

CAR PARK

SITE BOUNDARY

SITE BOUNDARY

SITE BOUNDARY

Dig ASB 010519
Cut Volume : -256.239m³
Volume to : OGL

24.540
24.750
23.610
23.820
23.730
23.800
23.940
23.870
23.800
23.710
23.680
23.700
23.730
23.600
23.590
24.900
24.940

MGL
EARTHWORKS
PART OF MGL GROUP

MGL Group
Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS
0191 3839900

TEMPLE PARK

ASBESTOS LOCATION

Scale 1:500

10 JAN 20 12:04

437150E
437200E
437250E
563950N
563900N
563850N

BUILDING
CAR PARK
SITE BOUNDARY

MGL
EARTHWORKS
PART OF MGL GROUP

MGL Group
Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS
0191 3839900

TEMPLE PARK

SUBSOIL ASBUILT SURVEY

Scale 1:500

10 JAN 20 11:38

Appendix B. U1 Exemption

B.1 U1 Exemption

BETA This is a trial service – your feedback (mailto:enquiries@environment-agency.gov.uk) will help us to improve it.

Registration WEX171384 – M.G.L. DEMOLITION LIMITED

Registration number	WEX171384
Organisation name	M.G.L. DEMOLITION LIMITED
Organisation address	Davison House, Rennys Lane, Davison House, Rennys Lane, Dragonville Ind Estate, DH1 2RS
Organisation postcode	DH1 2RS (http://data.ordnancesurvey.co.uk/id/postcodeunit/DH12RS)

Site

Site address	TEMPLE PARK CENTRE, TEMPLE MEMORIAL PARK, SOUTH SHIELDS, NE34 8QN
Site postcode	NE34 8QN (http://data.ordnancesurvey.co.uk/id/postcodeunit/NE348QN)
Site grid reference	NZ3718963940

Exemption U1

Exemption	Use of waste in construction (https://www.gov.uk/guidance/waste-exemptions-using-waste)
Registration date	02/05/2019
Expiry date	01/05/2022

Back

Support

Ask for support (https://www.gov.uk/government/organisations/environment-agency#org-contacts)

Submit feedback (https://support.environment.data.gov.uk/hc/en-gb/requests/new)

FAQs (https://support.environment.data.gov.uk/hc/en-gb/categories/360000746772-FAQs)

Announcements (https://support.environment.data.gov.uk/hc/en-gb/categories/360000745191-Announcements)

Terms and Conditions (https://support.environment.data.gov.uk/hc/en-gb/articles/360015443132-Terms-and-conditions)

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Appendix C. Waste Transfer and Consignment Notes

C.1 Waste Transfer Notes

C.2 Consignment Notes

MGL Demolition

230140 8062

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 03523

2. Waste is to be removed from *(Site Name / Address / Tel)*:
MGL DEMOLITION 300 8062
TEMPLE PARK LEISURE
JOHN REID ROAD
SOUTH SHIELDS NE34 8QN

3. Waste Producer - *If different from A2 (Name / Address)*:
TEL 0191 383 9900
FAX 0191 383 9911
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste will be taken to *(Name / Address / Postcode)*:
ALAB ENVIRONMENTAL
BRENDA ROAD.
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG TS25 2BS

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all information must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)	QTY (kg)	Waste Chemical / Biological Components and Concentration: Component	Concentration % / mg / kg	Physical Form *Gas, Liquid, Solid, Powder, Sludge, Mixed*	Hazard Code(s)	Container type, number and size
☑ Asbestos	17 06 01* ☑ / 17 06 05* ☐		Amosite ☑ / Chrysotile Fibres ☐	≥0.1%	SOLID	HP5, HP7	LWC
☐ Fluorescent Tubes	20 01 21* ☐		Mercury ☐	≥0.002%	POWDER	HP6, HP14	40YRD
☐ Contaminated Soils	17 05 03* ☐	6000KG			SOLID		SKIP

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☑ / 17 06 05* ☐	2212 ☐ / 2590 ☑		9 ☑	2 ☐ / 3 ☑	PPE

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Driver Name: CRAIG BELLAS

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. [redacted]

Signature: [redacted]

Date 04/02/2019 Time 09.30

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct. The carrier is registered or exempt and was advised of the appropriate precautionary measures. All waste is packaged and labelled correctly. The carrier has been advised of any special handling requirements.

I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor *(Producer)* Name: CRAIG BELLAS

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Signature: [redacted]

Date: 04/02/2019 Time: 09.35

PART E - Consignee's *(Recipient's)* Certificate

If more than one waste type is collected all information must be completed below for each EWC.

Individual EWC Code	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☐		Accepted ☐ Rejected ☐	D15 (to Newburn) ☐
170601	5340	A	D05

Waste Received *at address (A4)* Date: 04 02 2019 Time: 11 15

Vehicle Reg. *(or mode of transport if not road)*: [redacted]

Waste Rejected *(Provide details)*:

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]
Authorises the management of waste described in (B) at address given in (A4)
☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP3399ZM (ASBESTOS TO NEWBURN)

Name: ALAB ENVIRONMENTAL SERVICES LTD

On behalf of *(Name / Address / Tel)*:
SEATON MEADOWS
BRENDA ROAD
HARTLEPOOL
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG TS25 2BS

Signature: [redacted]

Date: 04 02 2019 Time: 11 15

Top Copy - *Producer* • Yellow Copy - *Carrier* • Pink Copy - *Recipient*

25660 8062

MGL
Demolition

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 03129

2. Waste is to be removed from *(Site Name / Address / Tel)*:
TEMPLE PARK LEISURE CENTRE
JOHN REID ROAD
SOUTH SHIELDS NE34 8QN
JOB NO 8062

3. Waste Producer - *If different from A2 (Name / Address)*:
0191 3839900 TEL
0191 3839911 FAX
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste will be taken to *(Name / Address / Postcode)*:
ALAB ENVIRONMENTAL SERVICES LTD
BRENDA ROAD CLEVELAND HARTLEPOOL
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG TS25 2BS

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all information must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)*	QTY (kg)	Waste Chemical / Biological Components and Concentration: Component	Concentration % / mg / kg	Physical Form (Gas, Liquid, Solid, Powder, Sludge, Mixed)	Hazard Code(s)	Container type, number and size
☑ Asbestos	17 06 01* ☑ / 17 06 05* ☐		Amosite ☑ / Chrysotile Fibres ☐	≥0.1%	SOLID	HP5, HP7	40YD
☐ Fluorescent Tubes	20 01 21* ☐	8000kg	Mercury ☐	≥0.002%	POWDER	HP6, HP14	SKIP
☐ Contaminated Soils	17 05 03* ☐				SOLID		ENC 10

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☑ / 17 06 05* ☐	2212 ☑ / 2590 ☐		9 ☑	2 ☐ / 3 ☑	PPE/DB

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Driver Name: GARY OWENS

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. [redacted]

Signature: [redacted]

Date 05-03-2019 Time 9 —

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct. The carrier is registered or exempt and was advised of the appropriate precautionary measures. All waste is packaged and labelled correctly. The carrier has been advised of any special handling requirements.

I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor *(Producer)* Name: L CLOSE

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Signature: [redacted]

Date: 05-03-2019 Time: 9-20

PART E - Consignee's *(Recipient's)* Certificate

If more than one waste type is collected all information must be completed below for each EWC.

Individual EWC Code	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☐		Accepted ☐ Rejected ☐	D15 (to Newburn) ☐
170601	8100	A	D05

Waste Received at address (A4) Date: 05032019 Time: 1015

Vehicle Reg. *(or mode of transport if not road)*: [redacted]

Waste Rejected *(Provide details)*:

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]
Authorises the management of waste described in (B) at address given in (A4)

☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP33997ZM (ASBESTOS TO NEWBURN)

Name: L MICHAEL
ALAB ENVIRONMENTAL SERVICES LTD
On behalf of *(Name / Address / Tel)*:
BEATON MEADOWS
BRENDA ROAD
HARTLEPOOL
TS25 2BS
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

Signature: [redacted]

Date: 05 03 2019 Time: 1015

Top Copy - *Producer* • Yellow Copy - *Carrier* • Pink Copy - *Recipient*

MGL
Demolition

8062

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 02762

2. Waste is to be removed from *(Site Name / Address / Tel)*:
Temple Park John Reid Road
South Shields NE34 8GN

3. Waste Producer - *If different from A2 (Name / Address)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste will be taken to *(Name / Address / Postcode)*: William Tree
West Road Fellings Gateshead
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG NE10 0ES

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all information must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)	QTY (kg)	Waste Chemical / Biological Components and Concentration: Component	Concentration % / mg / kg	Physical Form *Gas, Liquid, Solid, Powder, Sludge, Mixed*	Hazard Code(s)	Container type, number and size
☐ Asbestos	17 06 01* ☐ / 17 06 05* ☐		Amosite ☐ / Chrysotile Fibres ☐	≥0.1%	SOLID	HP5, HP7	
☑ Fluorescent Tubes	20 01 21* ☑		Mercury ☑	≥0.002%	POWDER	HP6, HP14	Coffin
☐ Contaminated Soils	17 05 03* ☐				SOLID		

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☐ / 17 06 05* ☐	2212 ☐ / 2590 ☐		9 ☐	2 ☐ / 3 ☐	

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Driver Name: Connell Scott

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. [redacted]

Signature [redacted]

Date 5/6/19 **Time** 13.40

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct. The carrier is registered or exempt and was advised of the appropriate precautionary measures. All waste is packaged and labelled correctly. The carrier has been advised of any special handling requirements.

I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor *(Producer)* **Name:** A Robinson

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Signature: [redacted]

Date: 5/6/19 **Time:** 13.40

PART E - Consignee's *(Recipient's)* Certificate

If more than one waste type is collected all information must be completed below for each EWC.

Individual EWC Code	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☑	100	Accepted ☑ Rejected ☐	D15 D15 (to Newburn) ☐

Waste Received *at address (A4)* **Date:** 05/06/19 **Time:** 14:15

Vehicle Reg. *(or mode of transport if not road)*: [redacted]

Waste Rejected *(Provide details)*: —

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]
Authorises the management of waste described in (B) at address given in (A4)
☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP33997ZM (ASBESTOS TO NEWBURN)

Name: Andrew Reay

On behalf of *(Name / Address / Tel)*:
AS A4
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

Signature: [redacted]

Date: 05/06/19 **Time:** 14:15

Top Copy - *Producer* • Yellow Copy - *Carrier* • Pink Copy - *Recipient*

MGL
Demolition

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

8062

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 03530

2. Waste is to be removed from *(Site Name / Address / Tel)*:
MGL DEMOLITION JOB 8062
TEMPLE PARK LEISURE CENTRE
JOHN REID ROAD SOUTH SHIELDS NE34 8QN

3. Waste Producer - *If different from A2 (Name / Address)*:
TEL 0191 3809900
FAX 0191 3809911
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste will be taken to *(Name / Address / Postcode)*:
ARGEN TREATMENT LIMITED
PORT CLARENCE, MIDDLESBROUGH
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG TS2 1UE

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all information must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)	QTY (kg)	Waste Chemical / Biological Components and Concentration: Component	Concentration % / mg / kg	Physical Form (Gas, Liquid, Solid, Powder, Sludge, Mixed)	Hazard Code(s)	Container type, number and size
☑ Asbestos	17 06 01* ☑ / 17 06 05* ☐		Amosite ☑ / Chrysotile Fibres ☑	≥0.1%	SOLID	HP5, HP7	ENC 03
☐ Fluorescent Tubes	20 01 21* ☐		Mercury ☐	≥0.002%	POWDER	HP6, HP14	LOOSE
☐ Contaminated Soils	17 05 03* ☐	7000KG			SOLID		SKIP

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☑ / 17 06 05* ☐	2212 ☑ / 2590 ☐	WASTE ASBESTOS	9 ☑	2 ☐ / 3 ☑	DOT PPE

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Driver Name: CRAIG BELLAS

On behalf of *(Name / Address / Tel)*:
☐ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. [redacted]

Signature: [redacted]

Date 12/03/2019 **Time** 11.30am

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct. The carrier is registered or exempt and was advised of the appropriate precautionary measures. All waste is packaged and labelled correctly. The carrier has been advised of any special handling requirements.
I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor *(Producer)* **Name:** Rob Berry

On behalf of *(Name / Address / Tel)*:
☐ MGL Demolition, Davison House, Dragonville Ind. Est. Durham DH1 2RS

Signature: [redacted]

Date: 12/03/2019 **Time:** 11.35am

PART E - Consignee's *(Recipient's)* Certificate

If more than one waste type is collected all information must be completed below for each EWC.

Individual EWC Code	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☐		Accepted ☐ Rejected ☐	D15 (to Newburn) ☐
170601	6600	✓	D05

Waste Received *at address (A4)* **Date:** 12/3/19 **Time:** 1224

Name: Dforeman

Vehicle Reg. *(or mode of transport if not road)*: [redacted]

Waste Rejected *(Provide details)*:

On behalf of *(Name / Address / Tel)*:
ASA
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]
Authorises the management of waste described in (B) at address given in (A4)
☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP33997ZM (ASBESTOS TO NEWBURN)

Signature: [redacted]

Date: 12/3/19 **Time:** 1224

Top Copy - *Producer* • Yellow Copy - *Carrier* • Pink Copy - *Recipient*

MGL
Demolition

22760 8062.

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 07160

2. The waste describe below is to be removed from *(Name, address, postcode, telephone, email)*:
MGL LTD
TEMPLE PK CENTRE
JOHN READ RD SOUTH SHIELDS
NE34 8QN

3. Waste will be taken to *(Name, address, postcode)*:
ALAB ENVIRONMENTAL
BRENDA RD HARTLEPOOL TS25 2BS
☐ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste Producer - If different from A2 *(Name, address, postcode, telephone, email)*:
☑ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all of the information given below must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)	QTY (kg)	The chemical / biological components in the waste and their concentrations: Component	Concentration % / mg / kg	Physical Form *Gas, Liquid, Solid, Powder, Sludge, Mixed*	Hazard Code(s)	Container type, number and size
☑ Asbestos	17 06 01* ☑ / 17 06 05* ☐	5000	Amosite ☑ / Chrysotile Fibres ☐	≥0.1%	SOLID	HP5, HP7	40 enc
☐ Fluorescent Tubes	20 01 21* ☐		Mercury ☐	≥0.002%	POWDER	HP6, HP14	
☐ Contaminated Soils	17 05 03* ☐				SOLID		

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☐ / 17 06 05* ☐	2212 ☑ / 2590 ☐	WASTE ASBESTOS	9 ☐	2 ☐ / 3 ☑	DB + PPE

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Carrier Name: KEV HAMBLETT

On behalf of *(Name, address, postcode, telephone, email)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. *(or mode of transport if not road)*: [redacted]

Signature: [redacted]

Date: 13/2/19 Time: 10-45

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor Name: J HORKIRK

On behalf of *(Name, address, postcode, telephone, email)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Signature: [redacted]

Date: 13-2-19 Time: 10-45

PART E - Consignee's Certificate

Where more than one waste type is collected, all of the information given below must be completed for each EWC

Individual EWC Code(s)	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☐	4760	Accepted ☐ Rejected ☐	D15 (to Newburn) ☐
170601		A	D05

I received this waste *at the address in A3 on:* Date: 13 02 2019 Time: 12 00

Vehicle Registration No. *(or mode of transport if not road)*: [redacted]

Where waste is rejected please provide details:

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]
Authorises the management of waste described in B at address given in A3

☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP33997ZM (ASBESTOS TO NEWBURN)

Name: C MILNER

On behalf of *(Name, address, postcode, telephone, email)*:
ALAB ENVIRONMENTAL SERVICES LTD
SEATON MEADOWS
BRENDA ROAD
HARTLEPOOL
TS25 2BS
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

Signature: [redacted]

Date: 13 02 2019 Time: 12 00

Top Copy - *Producer / Holder / Consignor* • Yellow Copy - *Carrier* • Pink Copy - *Consignee*

MGL Demolition

8062

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 03127

2. Waste is to be removed from *(Site Name / Address / Tel)*:
TEMPLE PARK LEISURE CENTRE
JOHN REID ROAD
SOUTH SHIELDS
NE34 8QN
JOB NO 8062

3. Waste Producer - *If different from A2 (Name / Address)*:
0191-3839900 TEL
0191-3839911 FAX
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste will be taken to *(Name / Address / Postcode)*:
AUGEAN TREATMANT LTD
PORT CLARENCE LANDFILL SITE
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG
CLEVELAND TS3 8AT

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all information must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)*	Qty (kg)*	Waste Chemical / Biological Components and Concentration: Component	Concentration % / mg / kg	Physical Form* *Gas, Liquid, Solid, Powder, Sludge, Mixed	Hazard Code(s)	Container type, number and size
☑ Asbestos	17 06 01* ☑ / 17 06 05* ☐	Approx 8.500kg	Amosite ☐ / Chrysotile Fibres ☐	≥0.1%	SOLID	HP5, HP7	40YD
☐ Fluorescent Tubes	20 01 21* ☐		Mercury ☐	≥0.002%	POWDER	HP6, HP14	SKIP
☐ Contaminated Soils	17 05 03* ☐				SOLID		ENC 03

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☑ / 17 06 05* ☐	2212 ☑ / 2590 ☐		9 ☑	2 ☐ / 3 ☑	PPE/DB

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Driver Name: GARY OWENS

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. [redacted]

Signature: [redacted]

Date 25-02-2019 **Time** 14-40

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct. The carrier is registered or exempt and was advised of the appropriate precautionary measures. All waste is packaged and labelled correctly. The carrier has been advised of any special handling requirements.

I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor *(Producer)* **Name:** K LOCK

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Signature: [redacted]

Date: 25-02-2019 **Time:** 15:20

PART E - Consignee's *(Recipient's)* Certificate

If more than one waste type is collected all information must be completed below for each EWC.

Individual EWC Code	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☐		Accepted ☐ Rejected ☐	
170601	9580	☑	D05 D15 (to Newburn) ☐

Waste Received *at address (A4)* **Date:** 27/2/19 **Time:** 14:32

Name: D Foreman

Vehicle Reg. *(or mode of transport if not road)*: [redacted]

On behalf of *(Name / Address / Tel)*: AS A4

Waste Rejected *(Provide details)*:

☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]

Authorises the management of waste described in (B) at address given in (A4)

☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP33997ZM (ASBESTOS TO NEWBURN)

Signature: [redacted]

Date: 27/2/19 **Time:** 14:32

Top Copy - *Producer* • Yellow Copy - *Carrier* • Pink Copy - *Recipient*

MGL Demolition

8062

HAZARDOUS WASTE CONSIGNMENT NOTE

Hazardous Waste Regulations 2005

PART A - Notification Details

1. Consignment Note Code: MGLDEM / 03531

2. Waste is to be removed from *(Site Name / Address / Tel)*: JOB No 8062
MGL DEMOLITION
TEMPLE PARK LEISURE CENTRE
JOHN REID ROAD
SOUTH SHIELDS NE34 8QN

3. Waste Producer - *If different from A2 (Name / Address)*:
TEL 0191 383 9900
FAX 0191 383 9911
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

4. Waste will be taken to *(Name / Address / Postcode)*:
ANSON TREATMENT LTD
PORT CLARENCE, HUNTSMAN DRIVE, CLEVELAND
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG TS2 1UG.

PART B - Description of Waste(s)

If continuation sheet used, tick here ☐

1. THE PROCESS Giving rise to the waste was: Demolition ☑

2. SIC CODE Giving rise to the waste: SIC 43.11 ☑

3. WASTE DETAILS - Where more than one waste type is collected, all information must be completed below for each EWC identified.

Description of Waste	List of Wastes EWC Code (6 Digits)	QTY (kg)	Waste Chemical / Biological Components and Concentration		Physical Form *Gas, Liquid, Solid, Powder, Sludge, Mixed*	Hazard Code(s)	Container type, numbes and size
			Component	Concentration % / mg / kg			
☑ Asbestos	17 06 01* ☑ / 17 06 05* ☑		Amosite ☑ / Chrysotile Fibres ☐	≥0.1%	SOLID	HP5, HP7	LWC 03
☐ Fluorescent Tubes	20 01 21* ☐		Mercury ☐	≥0.002%	POWDER	HP6, HP14	40 YARD
☐ Contaminated Soils	17 05 03* ☐	5000			SOLID		LWC 0560

The information given below is to be completed for each EWC identified

EWC Code	UN Identifaction No.(s)	Correct Shipping Name(s)	UN Class(es)	Packing Group(s)	Special Handling Requirements
17 06 01* ☑ / 17 06 05* ☐	2212 ☑ / 2590 ☐	WASTE ASBESTOS	9 ☑	2 ☐ / 3 ☑	D/B/110

PART C - Carrier's Certificate

I CERTIFY the consignment collected today, the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Driver Name: C BELLAS

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Carrier Registration No. / Reason for Exemption: CBDU93565 ☑

Vehicle Registration No. [redacted]

Signature: [redacted]

Date 28/03/2019 **Time** 07.50

PART D - Consignor's *(Producer's)* Certificate

I CERTIFY the information in A, B and C has been completed and is correct. The carrier is registered or exempt and was advised of the appropriate precautionary measures. All waste is packaged and labelled correctly. The carrier has been advised of any special handling requirements.

I CONFIRM that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

Consignor *(Producer)* **Name:** A. ROBINSON

On behalf of *(Name / Address / Tel)*:
☑ MGL Demolition, Davison House, Dragonville Ind. Est., Durham DH1 2RS

Signature: [redacted]

Date: 28/03/2019 **Time:** 0800

PART E - Consignee's *(Recipient's)* Certificate

If more than one waste type is collected all information must be completed below for each EWC.

Individual EWC Code	Quantity of Each EWC Code Received (kg)	EWC Code	Waste Management Operation (R or D code)
17 06 05* ☐ / 20 01 21* ☐		Accepted ☐ Rejected ☐	D15 (to Newburn) ☐
170601	4140	✓	D05

Waste Received *at address (A4)* **Date:** 28/3/19 **Time:** 950

Name:

Vehicle Reg. *(or mode of transport if not road)*: [redacted]

On behalf of *(Name / Address / Tel)*:
A3A4
☐ Newburn Ind. Est. Riverside Way, Newburn NE15 8SG

Waste Rejected *(Provide details)*:

I CERTIFY that waste permit / exempt Waste Operation No.: [redacted]
Authorises the management of waste described in (B) at address given in (A4)

☐ EPR-PF0108F (FLUORESCENT TUBES TO NEWBURN)
☐ EPR/RP33997ZM (ASBESTOS TO NEWBURN)

Signature: [redacted]

Date: 28/3/19 **Time:** 950

Top Copy - *Producer* • Yellow Copy - *Carrier* • Pink Copy - *Recipient*

07/10/19

The Hazardous Waste Regulations 2005: Consignment Note

Enq No 46315

PRODUCER'S/HOLDER'S/CONSIGNOR'S COPY (delete as appropriate)

PART A Notification details

1 Consignment note code: TEMPLE / WT001

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimilie):
Temple Park Centre
John Reid Road
South Shields
0
Tel No: 0191 3839900
P Code: NE34 8QN

3 Premises code (where applicable): TEMPLE

4 The waste will be taken to (name, address and postcode):
Enva Scotland Ltd
Gateshead Depot
Nest Road
Tyne and Wear, NE10 0ES
JC

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimilie):

PART B Description of the waste

If continuation sheet used, tick here ☐

1 The process giving rise to the waste(s) was:

2 SIC for the process giving rise to the waste: 93.19/

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code) (6 digits)	Quantity (kg)	The chemical / biological components of the waste and their concentrations are:		Physical form (gas, liquid, solid, sludge or mixed)	Hazard Code(s)	Container type, number and size
			Component	Concentration (% or mg/Kg)			
Mixed As List	as list	as list	Refer to attached list	n/a	as list	as list	as list

The information given below is to be completed for each EWC identified

EWC code	Packing groups	UN Number(s)	Proper shipping name(s)	UN class(es)	Special handling requirements	COMAH
as list	n/a	n/a	n/a	as list	as list	n/a

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If a schedule of carriers is attached tick here ☐

I certify that I today collected the consignment and that details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

1 Carrier name: K NELSON
On behalf of (name, address, postcode, telephone, e-mail, facsimilie):
As in A4

2 Carrier registration no./reason for exemption: [redacted]

3 Vehicle registration no. (or mode of transport, if not road): [redacted]

Signature [redacted]

Date 04/07/19 Time 13:10

Part D Consignor's certificate

I certify that the information in Part A, B and C above is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste heirarchy as required by regulation 12 of the waste (England and Wales) Regulation 2011

1 Consignor name: D. WATSON
On behalf of (name, address, postcode, telephone, e-mail, facsimilie):
As in A1

Signature [redacted]

Date 04/07/19 Time 13:10

PART E Consignee's certificate (where more than one waste type is collected all the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC received (kg)	EWC code accepted / rejected	Waste management operation (R or D code)
as list	As list	As list	As list

1 I received this waste at the address given in A4 on: Date 04/07/2019 Time 16:30

2 Vehicle registration no. (or mode of transport, if not road) [redacted] Name: Andrew Reay
On behalf of (name, address, postcode, telephone, e-mail, facsimilie):

3 Where the waste is rejected please provide details:
As A4

I certify that the waste management licence/permit/authorised exemption no(s).

[redacted] authorises the management of the waste described in B at the address given in A4

Signature [redacted]
Date 04/07/2019 Time 15:30

Form HWCN01v051

The Hazardous Waste Regulations 2005: Consignment Note

PRODUCER'S/HOLDER'S/CONSIGNOR'S COPY (delete as appropriate) **Continuation Sheet** 1 of 1

Continuation sheet for consignment note code: TEMPLE / WT001

PART B Description of the waste

3 WASTE DETAILS (for all types collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code) (6 digits)	Quantity (kg)	The chemical/biological components of the waste and their concentrations are:		Physical form (gas, liquid, solid, sludge or mixed)	Hazard Code(s)	Container type, number and size
			Component	Concentration (% or mg/Kg)			
Heatreat 522 as per G06/SS05/19	**16 03 03***		**Sodium Nitrite**	**<100%**	**Liquid**	**HP4,HP6,HP14**	**2 x 25Ltr**
Heatreat 522 as per G06/SS05/19 (20% Full)	**16 03 03***		**Sodium Nitrite**	**<100%**	**Liquid**	**HP4,HP6,HP14**	**1 x 25Ltr**
Empty Heatreat 522 Containers	**15 01 10***		**Sodium Nitrite**	**<0.1%**	**Solid**	**HP4,HP6,HP14**	**14 x 25Ltr**
Domestic Type Fridge Freezer	**16 02 11***		**Heavy Metals**	**<10%**	**solid**	**HP12,HP14**	**1 x each**

The information given below is to be completed for each EWC identified

UN Number	Proper Shipping Name(s)	UN Classes	Packing Group	Tunnel Code	EWC Code	COMAH
UN3287	Waste Toxic Liquid, Inorganic, n.o.s.	6.1	II	D/E	16 03 03*	H2
UN3287	Waste Toxic Liquid, Inorganic, n.o.s.	6.1	II	D/E	16 03 03*	H2
UN3509	Waste Packagings, Discarded, Empty, Uncleaned	9	n/a	E	15 01 10*	n/a
NC 1-9	Not Class 1-9	n/a	n/a	n/a	16 02 11*	n/a

PART E Consignee's certificate (all the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
16 03 03*	D15 50	A	D15
16 03 03*	D15 15	A	D15
15 01 10*	D09 14	A	D09
16 02 11*	D15 50	A	D15

Appendix D. Chemical Testing Results and Screening

D.1 Chemical Laboratory Data

DECLARATION OF COMPLIANCE (BS3882:2015)

CHEMTECH environmental

Lab ref	78618-1	**Date received**	08 May 2019
Soil source	Ex Stockpile. Bellway Homes, Doxford Park Sample 1	**Analysis started**	08 May 2019
		Analysis completed	13 May 2019
OS Grid reference	Not supplied	**Report issued**	13 May 2019
Date sampled	08 May 2019		

Test	Units	Result	Compliant with Multipurpose? (Y/N)	Compliant with specific purpose? (Y/N)				
				Acidic	Calcareous	Low Fertility	Low F Acidic	Low F Calcareous
Texture								
Clay content	% w/w	22	Y	Y	Y	Y	Y	Y
Silt content	% w/w	27	Y	Y	Y	Y	Y	Y
Sand content	% w/w	51	Y	Y	Y	Y	Y	Y
Soil texture	**class**	**SANDY CLAY LOAM**						
Stone content								
>2mm	% w/w	8	Y	Y	Y	Y	Y	Y
>20mm	% w/w	0	Y	Y	Y	Y	Y	Y
>50mm	% w/w	0	Y	Y	Y	Y	Y	Y
Mass loss on ignition								
Clay 5-20%	% w/w	-	-	-	-	-	-	-
Clay 20-35%	% w/w	12.5	Y	Y	Y	Y	Y	Y
pH	pH units	7.42	Y	N	N	Y	N	N
Carbonate (calcareous only)	% w/w	8.2			Y			Y
Nitrogen (total)	% w/w N	0.23	Y	Y	Y			
Carbon:Nitrogen ratio	-	17.9	Y	Y	Y	Y	Y	Y
Phosphorus (extractable)	mg/l P	23	Y	Y	Y	N	N	N
Potassium (extractable)	mg/l K	106	N	N	N	N	N	N
Magnesium (extractable)	mg/l Mg	78	Y	Y	Y	Y	Y	Y
Electrical conductivity	µS/cm	81	Y					
Phytotoxic contaminants (by soil pH)								
Copper (Nitric acid extract)	mg/kg Cu	27	Y	Y	Y	Y	Y	Y
Nickel (Nitric acid extract)	mg/kg Ni	20	Y	Y	Y	Y	Y	Y
Zinc (Nitric acid extract)	mg/kg Zn	96	Y	Y	Y	Y	Y	Y
VISIBLE CONTAMINANTS								
(air-dried soil)	% w/w	0	Y	Y	Y	Y	Y	Y
...of which plastics	% w/w	0	Y	Y	Y	Y	Y	Y
Sharps	% w/w	0	Y	Y	Y	Y	Y	Y

DECLARATION

I certify that this sample has been analysed in accordance with BS3882:2015.

Signature [redacted]

Name Karan Campbell

Position Director

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB
Tel 01207 528578 Email customerservices@chemtech-env.co.uk
Vat Reg No. 772 5703 18 Registered in England number 4284013

2531

ANALYTICAL TEST REPORT

Contract no: 78618(1)

Contract name: Ex Stockpile, Bellway Homes, Doxford Park

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 08 May 2019

Analysis started: 24 May 2019

Analysis completed: 25 May 2019

Report issued: 25 May 2019

This is a supplementary report to report number 78618 issued 13 May 2019.

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]
John Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78618-1	Sample 1 Contam 1	-	Sand with Gravel & Roots	-	-	11.0
78618-2	Sample 1 Contam 2	-	Sand with Gravel & Roots	-	-	11.0

Chemtech Environmental Limited

SOILS

Lab number			78618-1	78618-2
Sample id			Sample 1 Contam 1	Sample 1 Contam 2
Depth (m)			-	-
Date sampled			08/05/2019	08/05/2019
Test	**Method**	**Units**		
Arsenic (total)	CE127 M	mg/kg As	7.6	8.1
Cadmium (total)	CE127 M	mg/kg Cd	0.3	0.3
Chromium (total)	CE127 M	mg/kg Cr	33	37
Chromium (VI)	CE146	mg/kg CrVI	<1	<1
Copper (total)	CE127 M	mg/kg Cu	21	23
Lead (total)	CE127 M	mg/kg Pb	43	46
Mercury (total)	CE127 M	mg/kg Hg	<0.5	<0.5
Nickel (total)	CE127 M	mg/kg Ni	14	15
Selenium (total)	CE127 M	mg/kg Se	0.8	0.9
Zinc (total)	CE127 M	mg/kg Zn	72	77
Phenols (total)	CE078	mg/kg PhOH	<0.5	<0.5
PAH				
Naphthalene	CE087 M	mg/kg	0.07	0.06
Acenaphthylene	CE087 M	mg/kg	<0.02	<0.02
Acenaphthene	CE087 M	mg/kg	<0.02	<0.02
Fluorene	CE087 U	mg/kg	<0.02	<0.02
Phenanthrene	CE087 M	mg/kg	0.22	0.16
Anthracene	CE087 U	mg/kg	0.04	0.03
Fluoranthene	CE087 M	mg/kg	0.36	0.30
Pyrene	CE087 M	mg/kg	0.30	0.24
Benzo(a)anthracene	CE087 U	mg/kg	0.18	0.15
Chrysene	CE087 M	mg/kg	0.21	0.17
Benzo(b)fluoranthene	CE087 M	mg/kg	0.26	0.20
Benzo(k)fluoranthene	CE087 M	mg/kg	0.09	0.10
Benzo(a)pyrene	CE087 U	mg/kg	0.17	0.16
Indeno(123cd)pyrene	CE087 M	mg/kg	0.16	0.13
Dibenz(ah)anthracene	CE087 M	mg/kg	0.04	0.02
Benzo(ghi)perylene	CE087 M	mg/kg	0.12	0.11
PAH (total of USEPA 16)	CE087	mg/kg	2.23	1.84
TPH				
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	2	2
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	2	2
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78618-1	78618-2
Sample id			Sample 1 Contam 1	Sample 1 Contam 2
Depth (m)			-	-
Date sampled			08/05/2019	08/05/2019
Test	**Method**	**Units**		
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	35	27

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78618-1	Sample 1 Contam 1	-	Y	PAH, VPH, EPH (EHT)
78618-2	Sample 1 Contam 2	-	Y	PAH, VPH, EPH (EHT)

2531

ANALYTICAL TEST REPORT

Contract no: 79110

Contract name: Ex Bellway Doxford Park

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 03 June 2019

Analysis started: 03 June 2019

Analysis completed: 05 June 2019

Report issued: 05 June 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]

Dave Bowerbank
Customer Services Co-ordinator

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
79110-1	Sample 3	-	Clayey Sand with Gravel	-	-	15.8

Chemtech Environmental Limited

SOILS

Lab number			79110-1
Sample id			Sample 3
Depth (m)			-
Date sampled			03/06/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	8.9
Cadmium (total)	CE127 [M]	mg/kg Cd	0.2
Chromium (total)	CE127 [M]	mg/kg Cr	35
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 [M]	mg/kg Cu	26
Lead (total)	CE127 [M]	mg/kg Pb	51
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	17
Selenium (total)	CE127 [M]	mg/kg Se	1.1
Zinc (total)	CE127 [M]	mg/kg Zn	92
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	<0.02
Acenaphthylene	CE087 [M]	mg/kg	<0.02
Acenaphthene	CE087 [M]	mg/kg	<0.02
Fluorene	CE087 [U]	mg/kg	<0.02
Phenanthrene	CE087 [M]	mg/kg	<0.02
Anthracene	CE087 [U]	mg/kg	<0.02
Fluoranthene	CE087 [M]	mg/kg	<0.02
Pyrene	CE087 [M]	mg/kg	<0.02
Benzo(a)anthracene	CE087 [U]	mg/kg	<0.02
Chrysene	CE087 [M]	mg/kg	<0.03
Benzo(b)fluoranthene	CE087 [M]	mg/kg	<0.02
Benzo(k)fluoranthene	CE087 [M]	mg/kg	<0.03
Benzo(a)pyrene	CE087 [U]	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 [M]	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 [M]	mg/kg	<0.02
Benzo(ghi)perylene	CE087 [M]	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.34
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4

Chemtech Environmental Limited

SOILS

Lab number			79110-1
Sample id			Sample 3
Depth (m)			-
Date sampled			03/06/2019
Test	**Method**	**Units**	
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	<4

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
79110-1	Sample 3	-	N	

2531

ANALYTICAL TEST REPORT

Contract no: 78672(1)

Contract name: Ex Hexham

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 10 May 2019

Analysis started: 10 May 2019

Analysis completed: 15 May 2019

Report issued: 15 May 2019

This is a supplementary report to report number 78672 issued 13 May 2019.

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]

John Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78672-1	Sample 1	-	Sandy Clay with Gravel	-	-	10.4
78672-2	Sample 2	-	Sandy Clay with Gravel	-	-	10.0

Chemtech Environmental Limited

SOILS

Lab number			78672-1	78672-2
Sample id			Sample 1	Sample 2
Depth (m)			-	-
Date sampled			10/05/2019	10/05/2019
Test	**Method**	**Units**		
Arsenic (total)	CE127 [M]	mg/kg As	4.4	4.2
Cadmium (total)	CE127 [M]	mg/kg Cd	<0.2	<0.2
Chromium (total)	CE127 [M]	mg/kg Cr	61	48
Chromium (VI)	CE146	mg/kg CrVI	<1	<1
Copper (total)	CE127 [M]	mg/kg Cu	12	15
Lead (total)	CE127 [M]	mg/kg Pb	27	29
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	24	19
Selenium (total)	CE127 [M]	mg/kg Se	1.1	0.8
Zinc (total)	CE127 [M]	mg/kg Zn	57	54
Phenols (total)	CE078	mg/kg PhOH	<0.5	<0.5
PAH				
Naphthalene	CE087 [M]	mg/kg	<0.02	<0.02
Acenaphthylene	CE087 [M]	mg/kg	<0.02	<0.02
Acenaphthene	CE087 [M]	mg/kg	<0.02	<0.02
Fluorene	CE087 [U]	mg/kg	<0.02	<0.02
Phenanthrene	CE087 [M]	mg/kg	<0.02	<0.02
Anthracene	CE087 [U]	mg/kg	<0.02	<0.02
Fluoranthene	CE087 [M]	mg/kg	<0.02	<0.02
Pyrene	CE087 [M]	mg/kg	<0.02	<0.02
Benzo(a)anthracene	CE087 [U]	mg/kg	<0.02	<0.02
Chrysene	CE087 [M]	mg/kg	<0.03	<0.03
Benzo(b)fluoranthene	CE087 [M]	mg/kg	<0.02	<0.02
Benzo(k)fluoranthene	CE087 [M]	mg/kg	<0.03	<0.03
Benzo(a)pyrene	CE087 [U]	mg/kg	<0.02	<0.02
Indeno(123cd)pyrene	CE087 [M]	mg/kg	<0.02	<0.02
Dibenz(ah)anthracene	CE087 [M]	mg/kg	<0.02	<0.02
Benzo(ghi)perylene	CE087 [M]	mg/kg	<0.02	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.34	<0.34
TPH				
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78672-1	78672-2
Sample id			Sample 1	Sample 2
Depth (m)			-	-
Date sampled			10/05/2019	10/05/2019
Test	**Method**	**Units**		
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C35-C44)	CE068	mg/kg	<10	<10

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	As received		10	mg/kg

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
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Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78672-1	Sample 1	-	N	
78672-2	Sample 2	-	N	

2531

ANALYTICAL TEST REPORT

Contract no: 78672

Contract name: Ex Hexham

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 10 May 2019

Analysis started: 10 May 2019

Analysis completed: 13 May 2019

Report issued: 13 May 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
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Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]
John Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78672-1	Sample 1	-	Sandy Clay with Gravel	-	-	10.4

Chemtech Environmental Limited

SOILS

Lab number			78672-1
Sample id			Sample 1
Depth (m)			-
Date sampled			10/05/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	4.4
Cadmium (total)	CE127 [M]	mg/kg Cd	<0.2
Chromium (total)	CE127 [M]	mg/kg Cr	61
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 [M]	mg/kg Cu	12
Lead (total)	CE127 [M]	mg/kg Pb	27
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	24
Selenium (total)	CE127 [M]	mg/kg Se	1.1
Zinc (total)	CE127 [M]	mg/kg Zn	57
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	<0.02
Acenaphthylene	CE087 [M]	mg/kg	<0.02
Acenaphthene	CE087 [M]	mg/kg	<0.02
Fluorene	CE087 [U]	mg/kg	<0.02
Phenanthrene	CE087 [M]	mg/kg	<0.02
Anthracene	CE087 [U]	mg/kg	<0.02
Fluoranthene	CE087 [M]	mg/kg	<0.02
Pyrene	CE087 [M]	mg/kg	<0.02
Benzo(a)anthracene	CE087 [U]	mg/kg	<0.02
Chrysene	CE087 [M]	mg/kg	<0.03
Benzo(b)fluoranthene	CE087 [M]	mg/kg	<0.02
Benzo(k)fluoranthene	CE087 [M]	mg/kg	<0.03
Benzo(a)pyrene	CE087 [U]	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 [M]	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 [M]	mg/kg	<0.02
Benzo(ghi)perylene	CE087 [M]	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.34
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78672-1
Sample id			Sample 1
Depth (m)			-
Date sampled			10/05/2019
Test	**Method**	**Units**	
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	<4
EPH Aliphatic (>C35-C44)	CE068	mg/kg	<10

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	As received		10	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78672-1	Sample 1	-	N	

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ANALYTICAL TEST REPORT

Contract no: 78769

Contract name: Ex Hexham

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 16 May 2019

Analysis started: 16 May 2019

Analysis completed: 17 May 2019

Report issued: 17 May 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]

Karan Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78769-1	Sample 3	-	Clayey Sand with Gravel	-	-	9.8

Chemtech Environmental Limited

SOILS

Lab number			78769-1
Sample id			Sample 3
Depth (m)			-
Date sampled			16/05/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	5.9
Cadmium (total)	CE127 [M]	mg/kg Cd	<0.2
Chromium (total)	CE127 [M]	mg/kg Cr	95
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 [M]	mg/kg Cu	16
Lead (total)	CE127 [M]	mg/kg Pb	39
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	27
Selenium (total)	CE127 [M]	mg/kg Se	0.8
Zinc (total)	CE127 [M]	mg/kg Zn	73
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	<0.02
Acenaphthylene	CE087 [M]	mg/kg	<0.02
Acenaphthene	CE087 [M]	mg/kg	<0.02
Fluorene	CE087 [U]	mg/kg	<0.02
Phenanthrene	CE087 [M]	mg/kg	<0.02
Anthracene	CE087 [U]	mg/kg	<0.02
Fluoranthene	CE087 [M]	mg/kg	<0.02
Pyrene	CE087 [M]	mg/kg	<0.02
Benzo(a)anthracene	CE087 [U]	mg/kg	<0.02
Chrysene	CE087 [M]	mg/kg	<0.03
Benzo(b)fluoranthene	CE087 [M]	mg/kg	<0.02
Benzo(k)fluoranthene	CE087 [M]	mg/kg	<0.03
Benzo(a)pyrene	CE087 [U]	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 [M]	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 [M]	mg/kg	<0.02
Benzo(ghi)perylene	CE087 [M]	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.34
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78769-1
Sample id			Sample 3
Depth (m)			-
Date sampled			16/05/2019
Test	**Method**	**Units**	
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	16
EPH Aliphatic (>C35-C44)	CE068	mg/kg	<10

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	As received		10	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78769-1	Sample 3	-	N	

DECLARATION OF COMPLIANCE (BS3882:2015)

CHEMTECH environmental

Lab ref	78323-1	**Date received**	23 April 2019
Soil source	Newburn Yard Soils Sample 1	**Analysis started**	23 April 2019
OS Grid reference	Not supplied	**Analysis completed**	30 April 2019
Date sampled	23 April 2019	**Report issued**	30 April 2019

Test	Units	Result	Compliant with Multipurpose? (Y/N)	Compliant with specific purpose? (Y/N)				
				Acidic	Calcareous	Low Fertility	Low F Acidic	Low F Calcareous
Texture								
Clay content	% w/w	18	Y	Y	Y	Y	Y	Y
Silt content	% w/w	26	Y	Y	Y	Y	Y	Y
Sand content	% w/w	56	Y	Y	Y	Y	Y	Y
Soil texture	**class**	**SANDY LOAM**						
Stone content								
>2mm	% w/w	37	N	N	N	N	N	N
>20mm	% w/w	0	Y	Y	Y	Y	Y	Y
>50mm	% w/w	0	Y	Y	Y	Y	Y	Y
Mass loss on ignition								
Clay 5-20%	% w/w	9.95	Y	Y	Y	Y	Y	Y
Clay 20-35%	% w/w	-	-	-	-	-	-	-
pH	pH units	8.3	Y	N	Y	Y	N	Y
Carbonate (calcareous only)	% w/w	16.0			Y			Y
Nitrogen (total)	% w/w N	0.36	Y	Y	Y			
Carbon:Nitrogen ratio	-	14.8	Y	Y	Y	Y	Y	Y
Phosphorus (extractable)	mg/l P	34	Y	Y	Y	N	N	N
Potassium (extractable)	mg/l K	236	Y	Y	Y	Y	Y	Y
Magnesium (extractable)	mg/l Mg	92	Y	Y	Y	Y	Y	Y
Electrical conductivity	µS/cm	183	Y					
Phytotoxic contaminants (by soil pH)								
Copper (Nitric acid extract)	mg/kg Cu	47	Y	Y	Y	Y	Y	Y
Nickel (Nitric acid extract)	mg/kg Ni	22	Y	Y	Y	Y	Y	Y
Zinc (Nitric acid extract)	mg/kg Zn	249	Y	Y	Y	Y	Y	Y
VISIBLE CONTAMINANTS								
(air-dried soil)	% w/w	0	Y	Y	Y	Y	Y	Y
...of which plastics	% w/w	0	Y	Y	Y	Y	Y	Y
Sharps	% w/w	0	Y	Y	Y	Y	Y	Y

DECLARATION

I certify that this sample has been analysed in accordance with BS3882:2015.

Signature [redacted]

Name Dave Bowerbank

Position Customer Services Co-ordinator

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB
Tel 01207 528578 Email customerservices@chemtech-env.co.uk
Vat Reg No. 772 5703 18 Registered in England number 4284013

DECLARATION OF COMPLIANCE (BS3882:2015)

CHEMTECH environmental

Lab ref	78323-2	**Date received**	23 April 2019
Soil source	Newburn Yard Soils Sample 2	**Analysis started**	23 April 2019
OS Grid reference	Not supplied	**Analysis completed**	30 April 2019
Date sampled	23 April 2019	**Report issued**	30 April 2019

Test	Units	Result	Compliant with Multipurpose? (Y/N)	Compliant with specific purpose? (Y/N)				
				Acidic	Calcareous	Low Fertility	Low F Acidic	Low F Calcareous
Texture								
Clay content	% w/w	18	Y	Y	Y	Y	Y	Y
Silt content	% w/w	34	Y	Y	Y	Y	Y	Y
Sand content	% w/w	48	Y	Y	Y	Y	Y	Y
Soil texture	**class**	**SANDY LOAM**						
Stone content								
>2mm	% w/w	14	Y	Y	Y	Y	Y	Y
>20mm	% w/w	0	Y	Y	Y	Y	Y	Y
>50mm	% w/w	0	Y	Y	Y	Y	Y	Y
Mass loss on ignition								
Clay 5-20%	% w/w	8.73	Y	Y	Y	Y	Y	Y
Clay 20-35%	% w/w	-	-	-	-	-	-	-
pH	pH units	8.0	Y	N	Y	Y	N	Y
Carbonate (calcareous only)	% w/w	5.5			Y			Y
Nitrogen (total)	% w/w N	0.29	Y	Y	Y			
Carbon:Nitrogen ratio	-	13.6	Y	Y	Y	Y	Y	Y
Phosphorus (extractable)	mg/l P	23	Y	Y	Y	N	N	N
Potassium (extractable)	mg/l K	149	Y	Y	Y	Y	Y	Y
Magnesium (extractable)	mg/l Mg	163	Y	Y	Y	Y	Y	Y
Electrical conductivity	µS/cm	175	Y					
Phytotoxic contaminants (by soil pH)								
Copper (Nitric acid extract)	mg/kg Cu	30	Y	Y	Y	Y	Y	Y
Nickel (Nitric acid extract)	mg/kg Ni	25	Y	Y	Y	Y	Y	Y
Zinc (Nitric acid extract)	mg/kg Zn	117	Y	Y	Y	Y	Y	Y
VISIBLE CONTAMINANTS								
(air-dried soil)	% w/w	0	Y	Y	Y	Y	Y	Y
...of which plastics	% w/w	0	Y	Y	Y	Y	Y	Y
Sharps	% w/w	0	Y	Y	Y	Y	Y	Y

DECLARATION

I certify that this sample has been analysed in accordance with BS3882:2015.

Signature [redacted]

Name Dave Bowerbank

Position Customer Services Co-ordinator

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB
Tel 01207 528578 Email customerservices@chemtech-env.co.uk
Vat Reg No. 772 5703 18 Registered in England number 4284013

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ANALYTICAL TEST REPORT

Contract no: 78771(1)

Contract name: Ex Newburn

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 08 May 2019

Analysis started: 16 May 2019

Analysis completed: 24 May 2019

Report issued: 24 May 2019

This is a supplementary report to report number 78771 issued 23 May 2019.

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]

John Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78771-1	Sample 3 Contam 1	-	Loam	-	-	5.3
78771-2	Sample 3 Contam 2	-	Loam	-	-	5.3

Chemtech Environmental Limited

SOILS

Lab number			78771-1	78771-2
Sample id			Sample 3 Contam 1	Sample 3 Contam 2
Depth (m)			-	-
Date sampled			08/05/2019	08/05/2019
Test	**Method**	**Units**		
Arsenic (total)	CE127 M	mg/kg As	4.5	5.0
Cadmium (total)	CE127 M	mg/kg Cd	0.3	0.3
Chromium (total)	CE127 M	mg/kg Cr	30	32
Chromium (VI)	CE146	mg/kg CrVI	<1	<1
Copper (total)	CE127 M	mg/kg Cu	9.5	10
Lead (total)	CE127 M	mg/kg Pb	111	121
Mercury (total)	CE127 M	mg/kg Hg	<0.5	<0.5
Nickel (total)	CE127 M	mg/kg Ni	10	11
Selenium (total)	CE127 M	mg/kg Se	0.6	0.7
Zinc (total)	CE127 M	mg/kg Zn	88	98
Phenols (total)	CE078	mg/kg PhOH	<0.5	<0.5
PAH				
Naphthalene	CE087 M	mg/kg	0.02	0.04
Acenaphthylene	CE087 M	mg/kg	<0.02	<0.02
Acenaphthene	CE087 M	mg/kg	<0.02	<0.02
Fluorene	CE087 U	mg/kg	<0.02	<0.02
Phenanthrene	CE087 M	mg/kg	0.09	0.07
Anthracene	CE087 U	mg/kg	<0.02	<0.02
Fluoranthene	CE087 M	mg/kg	0.11	0.06
Pyrene	CE087 M	mg/kg	0.08	0.04
Benzo(a)anthracene	CE087 U	mg/kg	0.05	0.04
Chrysene	CE087 M	mg/kg	0.07	0.04
Benzo(b)fluoranthene	CE087 M	mg/kg	0.10	0.04
Benzo(k)fluoranthene	CE087 M	mg/kg	0.04	<0.03
Benzo(a)pyrene	CE087 U	mg/kg	0.04	0.03
Indeno(123cd)pyrene	CE087 M	mg/kg	0.06	0.02
Dibenz(ah)anthracene	CE087 M	mg/kg	<0.02	<0.02
Benzo(ghi)perylene	CE087 M	mg/kg	0.06	0.03
PAH (total of USEPA 16)	CE087	mg/kg	0.73	0.41
TPH				
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78771-1	78771-2
Sample id			Sample 3 Contam 1	Sample 3 Contam 2
Depth (m)			-	-
Date sampled			08/05/2019	08/05/2019
Test	**Method**	**Units**		
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	32	7

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78771-1	Sample 3 Contam 1	-	N	
78771-2	Sample 3 Contam 2	-	N	

2531

ANALYTICAL TEST REPORT

Contract no: 79109

Contract name: Ex Newburn

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 03 June 2019

Analysis started: 03 June 2019

Analysis completed: 05 June 2019

Report issued: 05 June 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]
Dave Bowerbank
Customer Services Co-ordinator

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
79109-1	Sample 3	-	Clayey Sand with Gravel & Roots	-	-	14.8

Chemtech Environmental Limited

SOILS

Lab number			79109-1
Sample id			Sample 3
Depth (m)			-
Date sampled			03/06/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	9.9
Cadmium (total)	CE127 [M]	mg/kg Cd	0.3
Chromium (total)	CE127 [M]	mg/kg Cr	43
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 [M]	mg/kg Cu	32
Lead (total)	CE127 [M]	mg/kg Pb	67
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	24
Selenium (total)	CE127 [M]	mg/kg Se	1.2
Zinc (total)	CE127 [M]	mg/kg Zn	109
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	<0.02
Acenaphthylene	CE087 [M]	mg/kg	<0.02
Acenaphthene	CE087 [M]	mg/kg	<0.02
Fluorene	CE087 [U]	mg/kg	<0.02
Phenanthrene	CE087 [M]	mg/kg	<0.02
Anthracene	CE087 [U]	mg/kg	<0.02
Fluoranthene	CE087 [M]	mg/kg	<0.02
Pyrene	CE087 [M]	mg/kg	<0.02
Benzo(a)anthracene	CE087 [U]	mg/kg	<0.02
Chrysene	CE087 [M]	mg/kg	<0.03
Benzo(b)fluoranthene	CE087 [M]	mg/kg	<0.02
Benzo(k)fluoranthene	CE087 [M]	mg/kg	<0.03
Benzo(a)pyrene	CE087 [U]	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 [M]	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 [M]	mg/kg	<0.02
Benzo(ghi)perylene	CE087 [M]	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.34
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4

Chemtech Environmental Limited

SOILS

Lab number			79109-1
Sample id			Sample 3
Depth (m)			-
Date sampled			03/06/2019
Test	**Method**	**Units**	
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	<4

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
79109-1	Sample 3	-	N	

2531

ANALYTICAL TEST REPORT

Contract no: 78323

Contract name: Newburn Yard Soils

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 23 April 2019

Analysis started: 23 April 2019

Analysis completed: 30 April 2019

Report issued: 30 April 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing
NAD No Asbestos Detected

Approved by: [redacted]
Dave Bowerbank
Customer Services Co-ordinator

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78323-3	Sample 3	-	Clayey Sand with Gravel	-	-	13.4

Chemtech Environmental Limited

SOILS

Lab number			78323-3
Sample id			Sample 3
Depth (m)			-
Date sampled			23/04/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	16
Boron (water soluble)	CE063 [M]	mg/kg B	1.5
Cadmium (total)	CE127 [M]	mg/kg Cd	0.6
Chromium (total)	CE127 [M]	mg/kg Cr	55
Copper (total)	CE127 [M]	mg/kg Cu	87
Lead (total)	CE127 [M]	mg/kg Pb	362
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	39
Selenium (total)	CE127 [M]	mg/kg Se	1.5
Zinc (total)	CE127 [M]	mg/kg Zn	266
pH	CE004 [M]	units	8.4
Sulphate (total)	CE062 [M]	mg/kg SO_4	1197
Sulphur (total)	CE127	mg/kg S	789
Sulphide	CE079	mg/kg S^{2-}	<10
Cyanide (free)	CE077	mg/kg CN	<1
Cyanide (complex)	CE077	mg/kg CN	<1
Thiocyanate	CE145 [M]	mg/kg SCN	<1
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	0.19
Benzo(a)pyrene	CE087 [U]	mg/kg	0.84
PAH (total of USEPA 16)	CE087	mg/kg	13.8
TPH			
EPH (>C10-C40)	CE033 [M]	mg/kg	319
Subcontracted analysis			
Asbestos (qualitative)	$	-	NAD

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE063	Boron (water soluble)	Hot water extract, ICP-OES	Dry	M	0.5	mg/kg B
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	As received	M	-	units
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	M	100	mg/kg SO_4
CE127	Sulphur (total)	Aqua regia digest, ICP-MS	Dry		100	mg/kg S
CE079	Sulphide	Extraction, Continuous Flow Colorimetry	As received		10	mg/kg S^{2-}
CE077	Cyanide (free)	Extraction, Continuous Flow Colorimetry	As received		1	mg/kg CN
CE077	Cyanide (complex)	Calculation: Cyanide (total) - Cyanide (free)	As received		1	mg/kg CN
CE145	Thiocyanate	Weak acid extraction, Colorimetry	Dry	M	1	mg/kg SCN
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE033	EPH (>C10-C40)	Solvent extraction, GC-FID	As received	M	10	mg/kg
$	Asbestos (qualitative)	HSG 248, Microscopy	Dry	U	-	-

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
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Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78323-1	Sample 1	-	N	
78323-2	Sample 2	-	N	
78323-3	Sample 3	-	N	

2531

ANALYTICAL TEST REPORT

Contract no: 78671

Contract name: Ex Newburn

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 10 May 2019

Analysis started: 10 May 2019

Analysis completed: 13 May 2019

Report issued: 13 May 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]

John Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78671-1	Sample 2	-	Sandy Clay with Gravel	-	-	26.3

Chemtech Environmental Limited

SOILS

Lab number			78671-1
Sample id			Sample 2
Depth (m)			-
Date sampled			10/05/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	13
Cadmium (total)	CE127 [M]	mg/kg Cd	0.3
Chromium (total)	CE127 [M]	mg/kg Cr	48
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 [M]	mg/kg Cu	37
Lead (total)	CE127 [M]	mg/kg Pb	105
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	28
Selenium (total)	CE127 [M]	mg/kg Se	1.2
Zinc (total)	CE127 [M]	mg/kg Zn	128
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	0.07
Acenaphthylene	CE087 [M]	mg/kg	<0.02
Acenaphthene	CE087 [M]	mg/kg	0.33
Fluorene	CE087 [U]	mg/kg	0.38
Phenanthrene	CE087 [M]	mg/kg	2.87
Anthracene	CE087 [U]	mg/kg	1.51
Fluoranthene	CE087 [M]	mg/kg	3.19
Pyrene	CE087 [M]	mg/kg	2.41
Benzo(a)anthracene	CE087 [U]	mg/kg	1.20
Chrysene	CE087 [M]	mg/kg	1.09
Benzo(b)fluoranthene	CE087 [M]	mg/kg	1.04
Benzo(k)fluoranthene	CE087 [M]	mg/kg	0.62
Benzo(a)pyrene	CE087 [U]	mg/kg	0.87
Indeno(123cd)pyrene	CE087 [M]	mg/kg	0.67
Dibenz(ah)anthracene	CE087 [M]	mg/kg	0.15
Benzo(ghi)perylene	CE087 [M]	mg/kg	0.56
PAH (total of USEPA 16)	CE087	mg/kg	17.0
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	3
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	14
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	7
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78671-1
Sample id			Sample 2
Depth (m)			-
Date sampled			10/05/2019
Test	**Method**	**Units**	
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	13
EPH Aliphatic (>C16-C35)	CE068	mg/kg	361
EPH Aliphatic (>C35-C44)	CE068	mg/kg	225

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	As received		10	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78671-1	Sample 2	-	N	

2531

ANALYTICAL TEST REPORT

Contract no: 78770

Contract name: Ex Newburn

Client reference: -

Clients name: MGL Group

Clients address: Davison House, Rennys Lane
Dragonville Industrial Estate
Durham
DH1 2RS

Samples received: 16 May 2019

Analysis started: 16 May 2019

Analysis completed: 17 May 2019

Report issued: 17 May 2019

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: [redacted]
Karan Campbell
Director

Chemtech Environmental Limited

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.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
78770-1	Sample 3	-	Clayey Sand with Gravel	-	-	9.3

Chemtech Environmental Limited

SOILS

Lab number			78770-1
Sample id			Sample 3
Depth (m)			-
Date sampled			16/05/2019
Test	**Method**	**Units**	
Arsenic (total)	CE127 [M]	mg/kg As	6.1
Cadmium (total)	CE127 [M]	mg/kg Cd	<0.2
Chromium (total)	CE127 [M]	mg/kg Cr	58
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 [M]	mg/kg Cu	17
Lead (total)	CE127 [M]	mg/kg Pb	39
Mercury (total)	CE127 [M]	mg/kg Hg	<0.5
Nickel (total)	CE127 [M]	mg/kg Ni	26
Selenium (total)	CE127 [M]	mg/kg Se	0.9
Zinc (total)	CE127 [M]	mg/kg Zn	71
Phenols (total)	CE078	mg/kg PhOH	<0.5
PAH			
Naphthalene	CE087 [M]	mg/kg	<0.02
Acenaphthylene	CE087 [M]	mg/kg	<0.02
Acenaphthene	CE087 [M]	mg/kg	<0.02
Fluorene	CE087 [U]	mg/kg	<0.02
Phenanthrene	CE087 [M]	mg/kg	0.03
Anthracene	CE087 [U]	mg/kg	<0.02
Fluoranthene	CE087 [M]	mg/kg	0.04
Pyrene	CE087 [M]	mg/kg	0.03
Benzo(a)anthracene	CE087 [U]	mg/kg	<0.02
Chrysene	CE087 [M]	mg/kg	<0.03
Benzo(b)fluoranthene	CE087 [M]	mg/kg	0.03
Benzo(k)fluoranthene	CE087 [M]	mg/kg	<0.03
Benzo(a)pyrene	CE087 [U]	mg/kg	<0.02
Indeno(123cd)pyrene	CE087 [M]	mg/kg	<0.02
Dibenz(ah)anthracene	CE087 [M]	mg/kg	<0.02
Benzo(ghi)perylene	CE087 [M]	mg/kg	<0.02
PAH (total of USEPA 16)	CE087	mg/kg	<0.34
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	<1
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	<1
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1

Chemtech Environmental Limited

SOILS

Lab number			78770-1
Sample id			Sample 3
Depth (m)			-
Date sampled			16/05/2019
Test	**Method**	**Units**	
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	<4
EPH Aliphatic (>C35-C44)	CE068	mg/kg	<10

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE078	Phenols (total)	Extraction, Continuous Flow Colorimetry	As received		0.5	mg/kg PhOH
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	As received		10	mg/kg

Chemtech Environmental Limited

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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
78770-1	Sample 3	-	N	

Certificate of Analysis

Certificate Number	19-01073-1
	25-Jan-19
Client	Dunelm Geotechnical & Environmental Ltd Foundation House St. John's Road Meadowfield Durham DH7 8TZ
Our Reference	19-01073-1
Client Reference	D9282
Order No	16308/D9282/RS
Contract Title	Temple Park Arisings
Description	3 Soil samples.
Date Received	21-Jan-19
Date Started	21-Jan-19
Date Completed	25-Jan-19
Test Procedures	Identified by prefix DETSn (details on request).
Notes	**This report supersedes 19-01073, extra tesing**

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

Sample ID	Other ID	Lab No	Completed	Matrix Description
FP1	North	1447318	24/01/2019	Very dark brown sandy CLAY
FP2	Centre	1447319	24/01/2019	Very dark brown gravelly, very sandy CLAY
FP3	South	1447320	24/01/2019	Very dark brown gravelly, very sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

			Lab No	1447318	1447319	1447320
			Sample ID	FP1	FP2	FP3
			Depth			
			Other ID	North	Centre	South
			Sample Type	ES	ES	ES
			Sampling Date	18/01/19	18/01/19	18/01/19
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Asbestos Quantification	DETSC 1102	0			Y	
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	13	12
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.7	0.3
Chromium	DETSC 2301#	0.15	mg/kg	23	19	21
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	29	50	48
Lead	DETSC 2301#	0.3	mg/kg	54	170	83
Mercury	DETSC 2325#	0.05	mg/kg	0.21	0.12	0.14
Nickel	DETSC 2301#	1	mg/kg	20	22	23
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.7
Zinc	DETSC 2301#	1	mg/kg	80	120	130
Inorganics						
pH	DETSC 2008#			8.4	9.0	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	3.5	6.6	5.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	52	250	33
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PAHs						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

			Lab No	1447318	1447319	1447320
			Sample ID	FP1	FP2	FP3
			Depth			
			Other ID	North	Centre	South
			Sample Type	ES	ES	ES
			Sampling Date	18/01/19	18/01/19	18/01/19
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	1.2
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	0.1	1.5
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	0.3	1.2
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.7
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.6
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.5
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.3
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.5
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.4
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.4
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.4
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	< 1.6	8.4
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	23	2.7	1.4

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1447318	FP1 North	SOIL	NAD	none	Colin Patrick
1447319	FP2 Centre	SOIL	Chrysotile	small bundle of Chrysotile fibres	Colin Patrick
1447320	FP3 South	SOIL	NAD	none	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

Lab No	1447319
Sample ID	FP2
Depth	
Other ID	Centre
Sample Type	SOIL
Sampling Date	18/01/19
Sampling Time	

Test	Method	Units	
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na
Breakdown of Gravimetric Analysis (a)			
Mass of Sample		g	487.24
ACMs present*		type	
Mass of ACM in sample		g	
% ACM by mass		%	
% asbestos in ACM		%	
% asbestos in sample		%	
Breakdown of Detailed Gravimetric Analysis (b)			
% Amphibole bundles in sample		Mass %	na
% Chrysotile bundles in sample		Mass %	0.001
Breakdown of PCOM Analysis (c)			
% Amphibole fibres in sample		Mass %	na
% Chrysotile fibres in sample		Mass %	na
Breakdown of Potentially Respirable Fibre Analysis (d)			
Amphibole fibres		Fibres/g	na
Chrysotile fibres		Fibres/g	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 19-01073-1
Client Ref D9282
Contract Temple Park Arisings

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1447318	FP1 SOIL	18/01/19	GJ 250ml, PT 1L		
1447319	FP2 SOIL	18/01/19	GJ 250ml, PT 1L		
1447320	FP3 SOIL	18/01/19	GJ 250ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Certificate of Analysis

Certificate Number	19-06485
	12-Apr-19
Client	Dunelm Geotechnical & Environmental Ltd Foundation House St. John's Road Meadowfield Durham DH7 8TZ
Our Reference	19-06485
Client Reference	D9282/2
Order No	17142/D9282/RS
Contract Title	Temple Park Pile Arisings
Description	One Soil sample.
Date Received	08-Apr-19
Date Started	08-Apr-19
Date Completed	12-Apr-19
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 19-06485
Client Ref D9282/2
Contract Title Temple Park Pile Arisings

Sample ID	Lab No	Completed	Matrix Description
PILE ARISINGS	1485064	12/04/2019	Dark brown gravelly, sandy, CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 19-06485
Client Ref D9282/2
Contract Title Temple Park Pile Arisings

			Lab No	1485064
				PILE
			Sample ID	ARISINGS
			Depth	
			Other ID	
			Sample Type	ES
			Sampling Date	04/04/19
			Sampling Time	n/s
Test	**Method**	**LOD**	**Units**	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	5.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.2
Chromium	DETSC 2301#	0.15	mg/kg	13
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13
Lead	DETSC 2301#	0.3	mg/kg	15
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	13
Selenium	DETSC 2301#	0.5	mg/kg	0.6
Zinc	DETSC 2301#	1	mg/kg	61
Inorganics				
pH	DETSC 2008#			12.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	34
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	83
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	84
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	1.8
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	39
Aromatic C5-C35	DETSC 3072*	10	mg/kg	41
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	120
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01
PAHs				
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 19-06485
Client Ref D9282/2
Contract Title Temple Park Pile Arisings

Lab No	1485064
	PILE
Sample ID	ARISINGS
Depth	
Other ID	
Sample Type	ES
Sampling Date	04/04/19
Sampling Time	n/s

Test	Method	LOD	Units	
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 19-06485
Client Ref D9282/2
Contract Title Temple Park Pile Arisings

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1485064	PILE ARISINGS	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 19-06485
Client Ref D9282/2
Contract Temple Park Pile Arisings

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1485064	PILE ARISINGS SOIL	04/04/19	No containers logged		Cannot evaluate

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

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Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	18/10627		
Issue Number:	1	Date:	20-Dec-18
Client:	Ian Farmer Associates (Newcastle) Unit 4, Faraday Close Pattinson North Industrial Estate Washington Tyne and Wear NE38 8QJ		
Project Manager:	Ceg/Chris Spencer		
Project Name:	Temple Park		
Project Ref:	19226		
Order No:	73626		
Date Samples Received:	14-Dec-18		
Date Instructions Received:	14-Dec-18		
Date Analysis Completed:	20-Dec-18		

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

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

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Superscript # indicates method accredited to ISO 17025.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

Prepared by:

[redacted]

Holly Neary-King
Sales Executive

Approved by:

[redacted]

Danielle Brierley
Client Manager

UKAS TESTING
No. 1247

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	18/10627/1				Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample Number										
Client Sample ID				M12596/1						
Depth to Top				0						
Depth to Bottom										
Date Sampled				13/12/2018						
Sample Type				Soil						
Sample Matrix Code				6A						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	Y	Y	**7.86**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.2**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**<0.01**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	Y	Y	13.7				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	Y	Y	7.42				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**3.02**				100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**<10**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
				mg/l		mg/kg				
Arsenic	A-T-025	N	N	0.003	0.001	0.007	**0.010**	0.5	2	25
Barium	A-T-025	N	N	0.225	0.143	0.593	**1.600**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.003	0.001	0.007	**0.020**	0.5	10	70
Copper	A-T-025	N	N	0.024	0.013	0.064	**0.150**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.5	10	30
Nickel	A-T-025	N	N	0.003	0.001	0.009	**0.020**	0.4	10	40
Lead	A-T-025	N	N	0.059	0.035	0.155	**0.400**	0.5	10	50
Antimony	A-T-025	N	N	0.002	0.001	0.004	**0.010**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.029	0.017	0.077	**0.200**	4	50	200
Chloride	A-T-026	N	N	14	7	37	**82**	800	15000	25000
Fluoride	A-T-026	N	N	0.8	0.7	2.1	**7.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	<1.00	34	<2	**<10**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	53	24	139	**284**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.4	7.3					
Conductivity (µS/cm)	A-T-037	N	N	107	47					
Mass Sample (kg)				0.201						
Dry Matter (%)	A-T-044	N	N	75.5						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.150						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.210						

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details									Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	18/10627/2					Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample Number											
Client Sample ID				M12596/2							
Depth to Top				0							
Depth to Bottom											
Date Sampled				13/12/2018							
Sample Type				Soil							
Sample Matrix Code				6E							
Solid Waste Analysis											
pH (pH Units)$_D$	A-T-031	Y	Y	**7.94**					-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.17**					-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.04**					-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	Y	Y	13.4					-	-	10
Total Organic Carbon (%)$_D$	A-T-032	Y	Y	7.92					3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**1.44**					100	-	-
Mineral Oil (mg/kg)$_A$	A-T-007	N	N	**<10**					500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**					1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**					6	-	-
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
				mg/l		mg/kg					
Arsenic	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**		0.5	2	25
Barium	A-T-025	N	N	0.080	0.072	0.210	**0.780**		20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**		0.04	1	5
Chromium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**		0.5	10	70
Copper	A-T-025	N	N	0.010	0.008	0.027	**0.090**		2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**		0.01	0.2	2
Molybdenum	A-T-025	N	N	0.005	0.004	0.012	**0.040**		0.5	10	30
Nickel	A-T-025	N	N	0.001	0.001	0.004	**0.010**		0.4	10	40
Lead	A-T-025	N	N	0.014	0.019	0.037	**0.200**		0.5	10	50
Antimony	A-T-025	N	N	0.003	0.002	0.007	**0.020**		0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**		0.1	0.5	7
Zinc	A-T-025	N	N	0.017	0.012	0.045	**0.140**		4	50	200
Chloride	A-T-026	N	N	3	2	9	**23**		800	15000	25000
Fluoride	A-T-026	N	N	1.3	1.0	3.4	**11.0**		10	150	500
Sulphate as SO_4	A-T-026	N	N	11	5	30	**62**		1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	93	50	245	**574**		4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**		1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**		500	800	1000
Leach Test Information											
pH (pH Units)	A-T-031	N	N	7.9	7.7						
Conductivity (µS/cm)	A-T-037	N	N	186	99						
Mass Sample (kg)				0.200							
Dry Matter (%)	A-T-044	N	N	75.7							
Stage 1											
Volume Leachant, L_2 (l)	A-T-046			0.350							
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.150							
Stage 2											
Volume Leachant, L_8 (l)	A-T-046			1.210							

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

D.2 Screened Data

Assessment Criteria : *Public Open Space (Parks) - 1% SOM Sand*

☐ **Use MRL Values?**

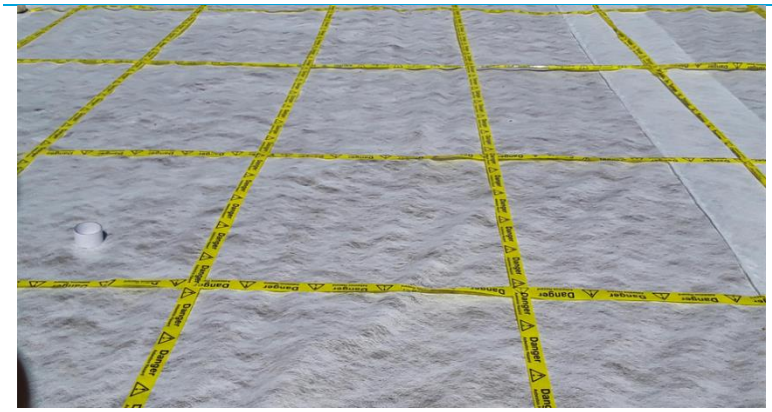
Constituent	Unit	Limit of Detection	Generic Assessment Criteria	Number of Samples	Minimum Value	Maximum Value	Number of Exceedances	Locations of Exceedances	Location		TP	TP	TP	TP
									Sample ID		FP1	FP2	FP3	pile arisings
									Depth		North	Centre	South	
									Date		18/01/2019	18/01/2019	18/01/2019	04/04/2019
									Strata					
										Zone				
Arsenic	0.2	mg/kg	168	4	5.3	13	0				9.4	13	12	5.3
Cadmium	0.1	mg/kg	882	4	0.2	0.7	0				0.2	0.7	0.3	0.2
Chromium	0.15	mg/kg	83500	4	13	23	0				23	19	21	13
Chromium, Hexavalent	1	mg/kg	251	4	<1	<1	0				<1	<1	<1	<1
Copper	0.2	mg/kg	45200	4	13	50	0				29	50	48	13
Lead	0.3	mg/kg	1340	4	15	170	0				54	170	83	15
Mercury	0.05	mg/kg	1110	4	<0.05	0.21	0				0.21	0.12	0.14	<0.05
Nickel	1	mg/kg	804	4	-	23	0				0	22	23	13
Selenium	0.5	mg/kg	2550	4	<0.5	0.7	0				<0.5	<0.5	0.7	0.6
Zinc	1	mg/kg	201000	4	-	130	0				0	120	130	61
Inorganics			No SSV	0	-	-	0							
pH			No SSV	4	8.2	12	0				8.4	9	8.2	12
Cyanide, Free	0.1	mg/kg	34	4	<0.1	<0.1	0				<0.1	<0.1	<0.1	<0.1
Organic matter	0.1	%	No SSV	4	1.4	6.6	0				3.5	6.6	5.6	1.4
Sulphate Aqueous Extract as SO4	10	mg/l	No SSV	4	33	250	0				52	250	33	34
TPH aliphatic C5-C6	0.01	mg/kg	109000	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
TPH aliphatic C6-C8	0.01	mg/kg	163000	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
TPH aliphatic C8-C10	0.01	mg/kg	9720	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
TPH aliphatic C10-C12	1.5	mg/kg	17700	4	<1.5	<1.5	0				<1.5	<1.5	<1.5	<1.5
TPH aliphatic C12-C16	1.2	mg/kg	23800	4	<1.2	<1.2	0				<1.2	<1.2	<1.2	<1.2
TPH aliphatic C16-C35	1.5	mg/kg	864000	4	<1.5	<1.5	0				<1.5	<1.5	<1.5	<1.5
Aliphatic C21-C35	3.4	mg/kg	No SSV	4	<3.4	83	0				<3.4	<3.4	<3.4	83
Aliphatic C5-C35	10	mg/kg	No SSV	4	<10	84	0				<10	<10	<10	84
TPH aromatic C5-C7 (Benzene)	0.01	mg/kg	139	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
TPH aromatic C7-C8 (Toluene)	0.01	mg/kg	69900	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
TPH aromatic C8-C10	0.01	mg/kg	5140	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
TPH aromatic C10-C12	0.9	mg/kg	8260	4	<0.9	<0.9	0				<0.9	<0.9	<0.9	<0.9
TPH aromatic C12-C16	0.5	mg/kg	10600	4	<0.5	<0.5	0				<0.5	<0.5	<0.5	<0.5
TPH aromatic C16-C21	0.6	mg/kg	7870	4	<0.6	1.8	0				<0.6	<0.6	<0.6	1.8
TPH aromatic C21-C35	1.4	mg/kg	7870	4	<1.4	39	0				<1.4	<1.4	<1.4	39
Aromatic C5-C35	10	mg/kg	No SSV	4	<10	41	0				<10	<10	<10	41
TPH Ali/Aro Total	10	mg/kg	No SSV	4	<10	120	0				<10	<10	<10	120
Benzene	0.01	mg/kg	139	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
Ethylbenzene	0.01	mg/kg	21400	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
Toluene	0.01	mg/kg	69900	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
Xylene	0.01	mg/kg	No SSV	4	<0.01	<0.01	0				<0.01	<0.01	<0.01	<0.01
PAHs			No SSV	0	-	-	0							
Naphthalene	0.1	mg/kg	623	4	<0.1	<0.1	0				<0.1	<0.1	<0.1	<0.1
Acenaphthylene	0.1	mg/kg	No SSV	4	<0.1	<0.1	0				<0.1	<0.1	<0.1	<0.1
Acenaphthene	0.1	mg/kg	28600	4	<0.1	0.2	0				<0.1	<0.1	0.2	<0.1
Fluorene	0.1	mg/kg	19600	4	<0.1	0.2	0				<0.1	<0.1	0.2	<0.1
Phenanthrene	0.1	mg/kg	No SSV	4	<0.1	1.2	0				<0.1	<0.1	1.2	<0.1
Anthracene	0.1	mg/kg	150000	4	<0.1	0.2	0				<0.1	<0.1	0.2	<0.1
Fluoranthene	0.1	mg/kg	20200	4	<0.1	1.5	0				<0.1	0.1	1.5	<0.1
Pyrene	0.1	mg/kg	15100	4	<0.1	1.2	0				<0.1	0.3	1.2	<0.1
Benzo(a)anthracene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.7	0				<0.1	<0.1	0.7	<0.1
Chrysene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.6	0				<0.1	<0.1	0.6	<0.1
Benzo(b)fluoranthene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.5	0				<0.1	<0.1	0.5	<0.1
Benzo(k)fluoranthene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.3	0				<0.1	<0.1	0.3	<0.1
Benzo(a)pyrene	0.1	mg/kg	21.4	4	<0.1	0.5	0				<0.1	<0.1	0.5	<0.1
Indeno(1,2,3-c,d)pyrene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.4	0				<0.1	<0.1	0.4	<0.1
Dibenzo(a,h)anthracene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.4	0				<0.1	<0.1	0.4	<0.1
Benzo(g,h,i)perylene	0.1	mg/kg	BaP Surrogate	4	<0.1	0.4	0				<0.1	<0.1	0.4	<0.1
PAH Total	1.6	mg/kg	No SSV	4	<1.6	8.4	0				<1.6	<1.6	8.4	<1.6
Phenol - Monohydric	0.3	mg/kg	685	4	<0.3	23	0				23	2.7	1.4	<0.3

Assessment Criteria : *Public Open Space (Parks) - 1% SOM Sand*

Use MRL Values?

Constituent	Unit	Limit of Detection	Generic Assessment Criteria	Number of Samples	Minimum Value	Maximum Value	Number of Exceedances	Locations of Exceedances	Strata	Zone	Location	Sample ID	Depth	Date
											78618-1	Sample 1	Contam 1	08/05/2019
											78618-2	Sample 1	Contam 2	08/05/2019
											79110-1	Sample 3		03/06/2019
											78672-1	Sample 1		10/05/2019
											78769-1	Sample 3		16/05/2019
											78672-1	Sample 1		10/05/2019
											78672-2	Sample 2		10/05/2019
											78771-1	Sample 3	Contam 1	08/05/2019
											78771-2	Sample 3	Contam 2	08/05/2019
											79109-1	Sample 3		03/06/2019
											78671-1	Sample 2		########
											78770-1	Sample 3		########
Arsenic	mg/kg As	1	168	12	4.2	13	0			Bellway	7.6	8.1	8.9	4.4	5.9	4.4	4.2	4.5	5	9.9	13	6.1
Cadmium	mg/kg Cd	0.2	882	12	<0.2	0.3	0			Bellway	0.3	0.3	0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.3	0.3	0.3	<0.2
Chromium	mg/kg Cr	1	83500	12	30	95	0			Bellway	33	37	35	61	95	61	48	30	32	43	48	58
Chromium VI	mg/kg CrVI	1	251	12	<1	<1	0			Bellway	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	mg/kg Cu	1	45200	12	9.5	37	0			Bellway	21	23	26	12	16	12	15	9.5	10	32	37	17
Lead	mg/kg Pb	1	1340	12	27	121	0			Bellway	43	46	51	27	39	27	29	111	121	67	105	39
Mercury	mg/kg Hg	0.5	1110	12	<0.5	<0.5	0			Bellway	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	mg/kg Ni	1	804	12	10	28	0			Bellway	14	15	17	24	27	24	19	10	11	24	28	26
Selenium	mg/kg Se	0.3	2550	12	0.6	1.2	0			Bellway	0.8	0.9	1.1	1.1	0.8	1.1	0.8	0.6	0.7	1.2	1.2	0.9
Zinc	mg/kg Zn	5	201000	12	54	128	0			Bellway	72	77	92	57	73	57	54	88	98	109	128	71
Phenol	mg/kg PhOH	0.5	685	12	<0.5	<0.5	0			Bellway	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PAH			No SSV	0	-	-	0			Bellway												
Naphthalene	mg/kg	0.02	623	12	<0.02	0.07	0			Bellway	0.07	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	0.07	<0.02
Acenaphthylene	mg/kg	0.02	No SSV	12	<0.02	<0.02	0			Bellway	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Acenaphthene	mg/kg	0.02	28600	12	<0.02	0.33	0			Bellway	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.33	<0.02
Fluorene	mg/kg	0.02	19600	12	<0.02	0.38	0			Bellway	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.38	<0.02
Phenanthrene	mg/kg	0.02	No SSV	12	<0.02	2.87	0			Bellway	0.22	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.07	<0.02	2.87	0.03
Anthracene	mg/kg	0.02	150000	12	<0.02	1.51	0			Bellway	0.04	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	1.51	<0.02
Fluoranthene	mg/kg	0.02	20200	12	<0.02	3.19	0			Bellway	0.36	0.3	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.06	<0.02	3.19	0.04
Pyrene	mg/kg	0.02	15100	12	<0.02	2.41	0			Bellway	0.3	0.24	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.04	<0.02	2.41	0.03
Benzo(a)anthracene	mg/kg	0.02	BaP Surrogate	12	<0.02	1.2	0			Bellway	0.18	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.04	<0.02	1.2	<0.02
Chrysene	mg/kg	0.03	BaP Surrogate	12	<0.03	1.09	0			Bellway	0.21	0.17	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	0.04	<0.03	1.09	<0.03
Benzo(b)fluoranthene	mg/kg	0.02	BaP Surrogate	12	<0.02	1.04	0			Bellway	0.26	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.04	<0.02	1.04	0.03
Benzo(k)fluoranthene	mg/kg	0.03	BaP Surrogate	12	<0.03	0.62	0			Bellway	0.09	0.1	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	0.62	<0.03
Benzo(a)pyrene	mg/kg	0.02	21.4	12	<0.02	0.87	0			Bellway	0.17	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.03	<0.02	0.87	<0.02
Indeno(123cd)pyrene	mg/kg	0.02	No SSV	12	<0.02	0.67	0			Bellway	0.16	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.02	<0.02	0.67	<0.02
Dibenz(ah)anthracene	mg/kg	0.02	BaP Surrogate	12	<0.02	0.15	0			Bellway	0.04	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02
Benzo(ghi)perylene	mg/kg	0.02	BaP Surrogate	12	<0.02	0.56	0			Bellway	0.12	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.03	<0.02	0.56	<0.02
PAH (total of USEPA 16)	mg/kg	0.34	No SSV	12	<0.34	17	0			Bellway	2.23	1.84	<0.34	<0.34	<0.34	<0.34	<0.34	0.73	0.41	<0.34	17	<0.34
TPH			No SSV	0	-	-	0			Bellway												
TPH aromatic C5-C7 (Benzene)	mg/kg	0.01	139	12	<0.01	<0.01	0			Bellway	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
TPH aromatic C7-C8 (Toluene)	mg/kg	0.01	69900	12	<0.01	<0.01	0			Bellway	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
TPH aromatic C8-C10	mg/kg	0.01	5140	12	<0.01	<0.01	0			Bellway	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
TPH aromatic C10-C12	mg/kg	1	8260	12	<1	1	0			Bellway	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
TPH aromatic C12-C16	mg/kg	1	10600	12	<1	3	0			Bellway	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	<1
TPH aromatic C16-C21	mg/kg	1	7870	12	<1	14	0			Bellway	2	2	<1	<1	<1	<1	<1	<1	<1	<1	14	<1
TPH aromatic C21-C35	mg/kg	1	7870	12	<1	7	0			Bellway	2	2	<1	<1	<1	<1	<1	<1	<1	<1	7	<1
EPH Aromatic (>EC35-EC44)	mg/kg	1	No SSV	6	<1	<1	0			Bellway				<1	<1	<1	<1				<1	<1
TPH aliphatic C5-C6	mg/kg	0.1	109000	12	<0.1	<0.1	0			Bellway	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH aliphatic C6-C8	mg/kg	0.1	163000	12	<0.1	<0.1	0			Bellway	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH aliphatic C8-C10	mg/kg	0.1	9720	12	<0.1	<0.1	0			Bellway	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH aliphatic C10-C12	mg/kg	4	17700	12	<4	<4	0			Bellway	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TPH aliphatic C12-C16	mg/kg	4	23800	12	<4	13	0			Bellway	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	13	<4
TPH aliphatic C16-C35	mg/kg	4	864000	12	<4	361	0			Bellway	35	27	<4	<4	16	<4	<4	32	7	<4	361	<4
EPH Aliphatic (>C35-C44)	mg/kg	10	No SSV	6	<10	225	0			Bellway				<10	<10	<10	<10				225	<10

Appendix E. Site Photographs

Site photographs	Work completed
	Geotextile membrane over backfilled material.
	Importation and cover system installation of subsoil and topsoil.

Site photographs	Work completed
	Building demolished
	Building demolished

Site photographs	Work completed
	Building demolished
	Building demolished

Site photographs	Work completed
	Internal removal for salvage or disposal
	Building demolished (material tested for re-use)

Site photographs	Work completed
	Laying of soil for cover system
	Laying of soil for cover system

Appendix F. Technical Notes

Memo

To:	Ian Seales		
From:	Carrie Rose	Email:	Carrie.Rose@atkinsglobal.com
Date:	20th March 2019	Phone:	0191 233 4412
Ref:	TPLC_TN 2	cc:	NA
Subject:	TPLC_ Reuse of Excavated Spoil		

Notice

This document and its contents have been prepared and are intended solely as information for South Tyneside Council (STC).

Atkins Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/ or its contents.

The information which Atkins Limited has provided has been prepared by an environmental consultant. Atkins Limited confirms that the opinions expressed are our true and professional opinions.

Document history

Rev	Purpose	Originated	Checked	Reviewed	Authorised	Date
1	For Issue	C Rose	K Millward	K Ellis	K Ellis	March 2019

Contains *sensitive* information

Background

Tolent Construction Limited have been commissioned by South Tyneside Council to undertake demolition works, infilling the swimming pool, construction of a new gable wall and installation of new services to the existing Leisure Centre at Temple Park, South Shields. Temple Park including the Leisure Centre site is a former landfill.

Atkins prepared a Remediation Statement for the site and have since been commissioned to prepare the Verification Report, post completion. In addition to the provision of the Verification Report, Atkins have also been commissioned to provide adhoc advice and guidance to STC on matters relating to potential ground contamination.

Tolent have been commissioned by STC to collect the verification data as part of the main contract. To date, Tolent have sought specialist consultancy services from Dunelm Ltd.

Material Suitability for Re-use Assessment

During the enabling works undertaken in January 2019, materials were removed from shallow excavations for the site compound, the laydown area and footpath areas. The material comprised a clay matrix with stones and construction waste, there were no obvious evidence of asbestos or domestic waste. The excavated materials (circa 100m^3) were stockpiled on site (in one stockpile) and subject to sampling and chemical analysis. The sampling was undertaken by Dunelm Ltd, they collected three samples (FP1, FP2 and FP3) from the stockpiled materials. The samples were analysed by DETS Ltd, subcontracted from Dunelm Ltd, for the chemical analysis suite in line with the Atkins' Reuse Criteria, provided as Appendix B to the Remediation Statement.

Except for the presence of asbestos (at 0.001%) in FP2 (recovered from the centre of the stockpile) no other determinants were present in excess of the Atkins Reuse Criteria. The DETS Certificate of analysis is enclosed.

Given the low percentage of measurable asbestos identified it is considered that the stockpiled material will be chemically suitable for reuse at depth. The current scheme design incorporates a geotextile layer overlain by 600mm-700mm of a 'clean' imported cover system. The materials can be reused below 700mm depth and below the geotextile layer. This is in line with the recommendation given by Dunelm. It is assumed that Tolent will reuse the materials in line with their permit/exemption requirements. It is recommended that Tolent survey the extents of where this stockpile is placed to maintain a record.

Enc. DETS Certificate of Analysis 19-01073

Contains *sensitive* information

Certificate of Analysis

Certificate Number	19-01073-1
	25-Jan-19
Client	Dunelm Geotechnical & Environmental Ltd Foundation House St. John's Road Meadowfield Durham DH7 8TZ
Our Reference	19-01073-1
Client Reference	D9282
Order No	16308/D9282/RS
Contract Title	Temple Park Arisings
Description	3 Soil samples.
Date Received	21-Jan-19
Date Started	21-Jan-19
Date Completed	25-Jan-19
Test Procedures	Identified by prefix DETSn (details on request).
Notes	**This report supersedes 19-01073, extra tesing**

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By [redacted]

Adam Fenwick
Contracts Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

Sample ID	Other ID	Lab No	Completed	Matrix Description
FP1	North	1447318	24/01/2019	Very dark brown sandy CLAY
FP2	Centre	1447319	24/01/2019	Very dark brown gravelly, very sandy CLAY
FP3	South	1447320	24/01/2019	Very dark brown gravelly, very sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

			Lab No	1447318	1447319	1447320
			Sample ID	FP1	FP2	FP3
			Depth			
			Other ID	North	Centre	South
			Sample Type	ES	ES	ES
			Sampling Date	18/01/19	18/01/19	18/01/19
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Asbestos Quantification	DETSC 1102	0			Y	
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	13	12
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.7	0.3
Chromium	DETSC 2301#	0.15	mg/kg	23	19	21
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	29	50	48
Lead	DETSC 2301#	0.3	mg/kg	54	170	83
Mercury	DETSC 2325#	0.05	mg/kg	0.21	0.12	0.14
Nickel	DETSC 2301#	1	mg/kg	20	22	23
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.7
Zinc	DETSC 2301#	1	mg/kg	80	120	130
Inorganics						
pH	DETSC 2008#			8.4	9.0	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	3.5	6.6	5.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	52	250	33
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01
PAHs						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

			Lab No	1447318	1447319	1447320
			Sample ID	FP1	FP2	FP3
			Depth			
			Other ID	North	Centre	South
			Sample Type	ES	ES	ES
			Sampling Date	18/01/19	18/01/19	18/01/19
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	1.2
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.2
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	0.1	1.5
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	0.3	1.2
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.7
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.6
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.5
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.3
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.5
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.4
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.4
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	0.4
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	< 1.6	8.4
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	23	2.7	1.4

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1447318	FP1 North	SOIL	NAD	none	Colin Patrick
1447319	FP2 Centre	SOIL	Chrysotile	small bundle of Chrysotile fibres	Colin Patrick
1447320	FP3 South	SOIL	NAD	none	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 19-01073-1
Client Ref D9282
Contract Title Temple Park Arisings

Lab No	1447319
Sample ID	FP2
Depth	
Other ID	Centre
Sample Type	SOIL
Sampling Date	18/01/19
Sampling Time	

Test	Method	Units	
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na
Breakdown of Gravimetric Analysis (a)			
Mass of Sample		g	487.24
ACMs present*		type	
Mass of ACM in sample		g	
% ACM by mass		%	
% asbestos in ACM		%	
% asbestos in sample		%	
Breakdown of Detailed Gravimetric Analysis (b)			
% Amphibole bundles in sample		Mass %	na
% Chrysotile bundles in sample		Mass %	0.001
Breakdown of PCOM Analysis (c)			
% Amphibole fibres in sample		Mass %	na
% Chrysotile fibres in sample		Mass %	na
Breakdown of Potentially Respirable Fibre Analysis (d)			
Amphibole fibres		Fibres/g	na
Chrysotile fibres		Fibres/g	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 19-01073-1
Client Ref D9282
Contract Temple Park Arisings

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1447318	FP1 SOIL	18/01/19	GJ 250ml, PT 1L		
1447319	FP2 SOIL	18/01/19	GJ 250ml, PT 1L		
1447320	FP3 SOIL	18/01/19	GJ 250ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix G. Piling Risk Assessments

TEMPLE PARK LEISURE CENTRE, SOUTH SHIELDS

CFA Pile Installation

Contamination Risk Assessment

Rev 00: 29th March 2019

INTRODUCTION

Green Piling have been appointed by Tolent Construction to undertake the design, supply, installation and testing (where required) of continuous flight auger piles as foundation support for a proposed extension at Temple Park Leisure Centre, South Shields.

Construction of the new extension requires the installation of CFA piles for the foundations. These piles will be installed through made ground, Glacial Till to finish in the Bedrock Formation. Ground conditions adopted within in the design have been taken from report S120505 prepared by Solmek Ltd.

GROUND INVESTIGATION

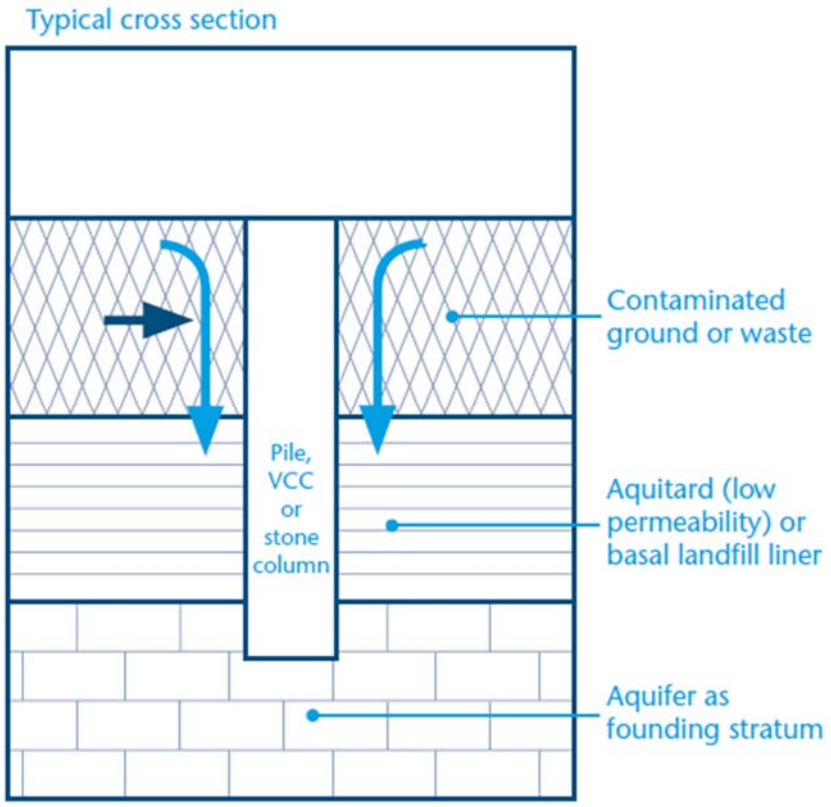
The following ground conditions were encountered during the investigation fieldwork:

Made Ground
Glacial Till (Superficial Deposits)
Bedrock (Solid Strata)
Groundwater Remarks: Groundwater was not encountered in the boreholes across the site, or during the later monitoring visits. It should be noted that ground water levels can fluctuate with seasonal and variations as well as in proximity to local dewatering and abstraction schemes. **General Remarks:** Low levels of contamination present across the site within the made ground topsoil and clay/sand fill but one elevated sulphide and speciated TPH in the slag and clinker gravel fill beneath the tarmac in BH3 at 0.01mbgl.

HAZARD IDENTIFICATION

Pollution Scenario

The hazard identified at ~Temple Park Leisure Centre, South Shields is referred to as 'Pollution Scenario 1' in the Environmental Agency's report "Piling into contaminated sites". This is described as the "creation of preferential pathways through an aquitard to allow potential contamination of an aquifer". It is illustrated thus: -



RISK ASSESSMENT

Pollution Scenario	Source (S)		Comment
	Pathway (P)		
	Receptor (R)		
Creation of preferential pathways to allow potential contamination of an aquifer.	S	Contaminated Made Ground	**Risk: Low** The proposed piling method is CFA which is a non-displacement method of piling. Theoretically, any disturbance to the ground is minimal and there should be no formation of preferential pathways, as the concrete cast in intimate contact with the surrounding soil.
	P	Pile / soil interface	
	R	Secondary and Principal Aquifers	
The driving of solid contaminants down into an aquifer during pile driving.	S	Contaminated Made Ground	**Risk: Low** Proposed piling method is CFA which is a non-displacement method of piling.
	P	Pile / soil interface	
	R	Secondary and Principal Aquifers	
Contamination of groundwater, and subsequently, surface waters by wet concrete, cement paste or grout.	S	Construction Materials	**Risk: Low** The site is located within a Groundwater Source Protection Zone and piles are proposed to extend beneath groundwater levels within the upper and lower Aquifers. Whilst the risk of contamination cannot be discounted the impact is assessed as low as both concrete and grout have low mobility potential.
	P	Migration via permeable strata	
	R	Groundwater	
	P		
	R		

ASSESMENT

During the pile boring process, no material is forced or transported downward. The maintenance of a positive outward pressure differential across the side wall of the pile inhibits the flow of any groundwater into the pile and the potential for migration of contaminated water to lower levels during excavation. Similarly, during concreting, a positive outward pressure differential is exerted across the side wall of the pile. Inward flow of groundwater to the pile is therefore inhibited and no new pathway for migration to lower levels is introduced. The National Groundwater & Contaminated Land Centre report NC/99/73 *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention* states that "provided that the pile is formed or placed in intimate contact with the surrounding soil there should be no formation of preferential pathways". This is the case with CFA piling where concrete is cast directly against the side walls of the pile. When exposed these side walls exhibit the surface characteristics of the adjacent soil (e.g. a roughened surface when cast against gravel) demonstrating the intimacy of contact that is achieved.

On the basis of this assessment it is reasonable to conclude that the installation of CFA piles will not directly transfer contaminated material to lower levels, will not introduce preferential pathways for ground water migration during or following construction, and will therefore not lead to contamination of the lower aquifer.

CONCLUSION

As part of this assessment a number of potential adverse environmental impacts have been considered and assessed on a qualitive basis. The overall risks associated with the proposed foundation works are considered to be low and the use of CFA piles is considered appropriate for the ground conditions at the site. Nevertheless, site teams will be specifically briefed on the presence of contamination on the site. The briefing will highlight the importance of personal hygiene, use of personal protective equipment and spoil handling. This will all be in accord with established Green Piling procedures.

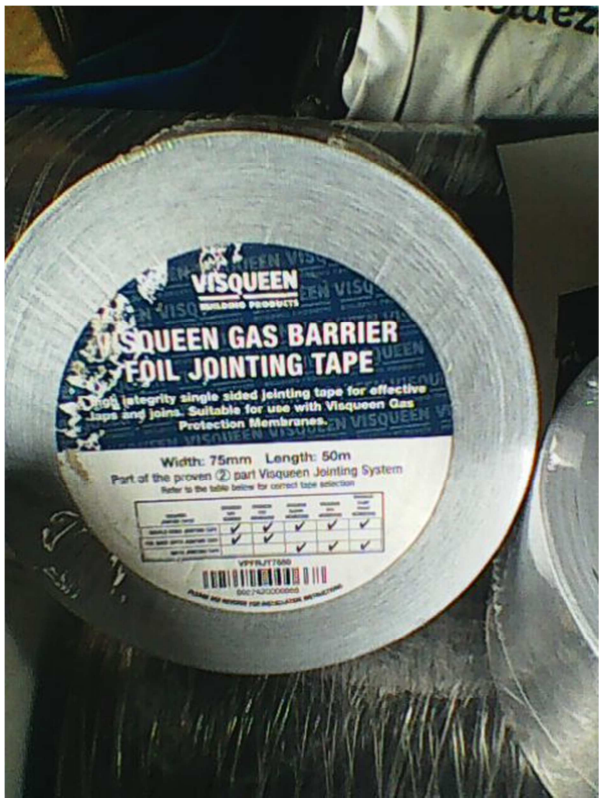
All Piling works will be completed as per Green Piling RAMS.

Appendix H. Gas Information

Clerk of Works Site Report **Job:** Temple Park Demolition
Date: Monday 15th July to Friday 19th July
Installation of Gas Membrane **Contractor:** Tolent

Installation of gas membrane installed as specicifasction apart from connection into existing membrane at joint of existing slab. Existing memebrane damaged and missing in places. Gas membrane lapped up face of existing slab and doubled side tape applied. There was no adhesion to slab side. Builders mastic to be applied to top of the joint at later date to seal.












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