

Appendix E

ASBESTOS RECORDS





ASBESTOS MANAGEMENT PLAN

Date Approved:	Nov 2022
Approved By:	Construction Wise Consultancy Ltd
Next Review Date:	Nov 2023
Author/Reviewer:	David Higgs
Version No.:	2

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1. Introduction

This Asbestos Management Plan sets out the actions taken for the ACM / fibres Found in the ground it's in accordance with The Control of Asbestos Regulations 2012 (CAR), best practice guidance.

- A copy of this plan and any other relevant information is held in the Site office.

2. Management Procedure

At WS05, the fiber quantification was 0.966% which is considered high this area will need to be managed as outlined below.

- Keeping soils damp to prevent the release of asbestos fibers – dust suppression will be used
- Any Materials stockpiles known to contain ACM / asbestos fibers will be covered
- Soils with ACM / fibers found will be removed slowly – no materials will be dropped from height so to minimize Fibers getting airborne.
- Air fiber monitoring will be in place during excavation of asbestos impacted soils
- Monitoring will be carried out but Site Manager that No cross-contamination of materials will occur.

To ensure employees, contractors and visitors to the Site are not exposed to ACMs'. the following asbestos management procedures will be in place:

- There is a designated person/s responsible for the management of asbestos on the premises [Inco Site Manager]
- Asbestos awareness training is provided to relevant employees.
- Stockpiles for export containing ACM / asbestos fibers will be covered and signage in place [As below]



- Periodic review of this Asbestos Management Plan and completion of the Permit to Work (Asbestos)
- Inco Health and Safety Team will be informed of any instances of suspected exposure to ACMs.

3. Responsibilities

3.1. Duty Holder

The responsibility Duty Holder. Principle Contractor-- Inco

3.2. Responsible Persons -- Inco Site Manager

3.3.

Consultants: N/A

3.4. Asbestos Survey and Register

The Asbestos Survey provides accurate information on the location, amount, and condition of ACMs. Which is kept in the site office by the Principle contractor

3.5. Asbestos Containing Materials

The areas of the Site where asbestos fibres have been found is/in around WS05 at 0.3m bgl quantified as 0.966 %

- *Contractors must notify the Site manager if they need to report or have any concerns in relation to an ACMs*

3.6. Construction Staff Awareness

All operatives within the Site will be provided with relevant information on:

- Types and location of ACMs (via the Asbestos Plan)
- How to avoid risks from asbestos (e.g. not Touching)
- How to report concerns about ACMs (e.g. to the Site Manager)
- Before the commencement of any works Contractors involved will be notified of what action will be taken regarding any asbestos found on site

3.7. Monitoring and Inspection

- All Areas will be dampened down to reduce the risk of asbestos fibres getting airborne
- Air monitoring for asbestos fibres during the excavations around WS05 area will be carried out
- Competent person to observe excavation to look for potential ACM

The owner will ensure formal visual inspections of all known ACMs are carried out as stipulated within the Asbestos Plan, recording the details of such inspections. (see Appendix 1 for template).

Formal visual inspections of retained ACMs will be conducted on at least an annual basis, by a Competent Person qualified to BOHS P401 or P402 certificate level

Any damaged or deteriorated materials found will be reported

Works and Visitor Protocols

3.7.1. Contractors

All Contractors attending site to carry out any works will be briefed on the asbestos management plan through the site induction and toolbox talks given by the Site manager

This will be provided by the Inco – Site Manager

All contractors undertaking any work will be required to sign that they have reviewed this Asbestos plan using Appendix 2 below.

Where there are ACMs that are to be worked on or nearby, no work will take place until an appropriate method statement of work is produced, and the Permit-to-Work procedures implemented.

A method statement for breaking / excavations around WS05, will also be provided by the Site manager for all Contractors to Read and Sign up to

3.7.2. Emergency Services

Emergency Services personnel attending site must be given access to the asbestos plan on arrival.

Asbestos Works and Removals

The owner will ensure that any works undertaken involving ACMs will be carried out within the requirements of the Control of Asbestos Regulations 2012. Guidance from the Health and Safety Executive can be found at: <http://www.hse.gov.uk/asbestos/index.htm>.

Control measures will be detailed in the method statement provided by the contractor.

The asbestos Plan will be updated accordingly following completion of the asbestos related works.

Dust suppression and completion of air fiber monitoring to prove no fibers are being released during the excavation, will be completed on site.

4. Emergency Procedures

The following procedures must be followed if anyone discovers or accidentally disturbs and release asbestos during the work.

This procedure reflects the guidance in HSE document em1 of the asbestos essential's series.

- Stop work;
- Warn anybody who may be affected.
- Exclude from the area anyone not needed to deal with the release.
- Identify the cause of the uncontrolled release.
- The situation must be reported immediately to the owner, or building manager and also the H&S Team
- No activity in the area is to recommence until the material has been identified and any necessary remedial works have been undertaken.
- Where the material has been found to be ACM, and if required, subsequent remedial and clearance work must be carried out by a contractor licensed to do so. Clearance testing must be carried out before the area is handed back for re- use or occupation.
- Where clearance/removal is not required but ACM's have been damaged/exposed then background monitoring must be carried out to ensure exposure levels are below $0.1\text{f}/\text{cm}^3$.

The Principal Contractors Site Manger should complete an accident/incident report form and submit it to the Health and Safety Team.

The Health and Safety team will be responsible for reporting to the HSE any incident involving accidental asbestos exposure as a dangerous occurrence under RIDDOR.

1. Control measures for specific areas identified

This section outlines specific control measures adopted by the owner, which are outside of the normal adopted practices, for ACMs which staff, visitors, emergency services attending site and/or contractors must be made aware of.

No major controls are needed outside this plan.

Appendix 2: Contractor Review of Asbestos Register/Survey

This sheet should be signed by all those carrying out work on the site

Persons signing this sheet are signing to say that.

- They have seen the Asbestos Plan and known the area in which there has been found Asbestos Fibers. And.
- That work will stop immediately should any suspicious materials be discovered.

Where an asbestos containing material is suspected, no work should be carried out until all relevant procedures have been carried out to ensure compliance with the Control of Asbestos Regulations 2012.

[illegible]

[illegible]

Appendix 3: Asbestos Permit to Work for Contractors/Maintenance

Date of Works: _____

Location and description of works;

Have you read and checked the Asbestos Management Plan / Asbestos Register?

☐

Yes – Proceed to next question

Are there known or suspected Asbestos Containing Materials (ACM's) present in the area of work?

☐

No – Work can proceed. However, it must be understood that there may still be asbestos present and caution must be taken

☐

Yes – Contractor to make assessment as to whether the ACM's will be disturbed whilst undertaking the work

Is there likelihood that ACM's will be disturbed whilst undertaking the work?

☐

No - Work can proceed. However, it must be understood that there is asbestos present and caution must be taken

☐

Yes – Work is not to be undertaken. Sign below stating that the work cannot be carried out and state the reason. Bring to the attention of the owner/building manager.

Contractor Declaration:

☐

I have read the above in conjunction with the asbestos register and will fully abide by the criteria laid down:

I have read the above in conjunction with the asbestos register and **CANNOT** undertake this work for the following reasons:

Signed: _____ Dated: _____

Print Name: _____ Company: _____

Owner Approval:

Signed: _____ Dated: _____

Print Name: _____ Position: _____

Appendix 4: Staff Training Records

Staff's training needs are subject to periodic review.

Periodic asbestos awareness training will be provided to those staff where Samrex/CWC Ltd identifies the need. Other professional training will be undertaken as and when required.

Staff Name	Details of Training Attended	Date Training Attended	Next Training Date

These training records should be reviewed as a minimum annually and should form part of the staff's Personal Development Plan and Performance Review.

Appendix F

PHOTOGRAPHIC RECORD





Plate 1: Site Visit 06/12/22 - Surface clearance and scraping of soft material, showing former hardstanding surfacing



Plate 2: Site Visit 06/12/22 – Stockpiled scraped material



Plate 3: Site Visit 06/12/22 - breaking out of former railway track



Plate 4: Site Visit 06/12/2022 – WS05 confirmation of decommissioning



Plate 5: Site Visit 06/12/22 – WS06 confirmation of decommissioning



Plate 6: Site Visit 06/12/22 – WS07 confirmation of decommissioning



Plate 7: Site Visit 19/12/22 – Commencement of concrete breakout near to WS05



Plate 8: Site Visit 19/12/22 – Suspected ACM (lagging) observed in excavation of the vicinity of WS05



Plate 9: Site Visit 19/12/22 – Surface hardstanding breakout in the west of the site



Plate 10: Site Visit 19/12/22 – Observed two sheets of corrugated suspected ACM roof tiles



Plate 11: Site Visit 19/12/22 – Covered suspected asbestos



Plate 12: Site Visit 22/12/22 – Dust suppression during breakout with Air Monitoring



Plate 13: Site Visit 22/12/22 – VOC monitoring



Plate 14: Site Visit 22/12/22 – General granular crush material with silty ash encountered beneath slab in proximity to former rail lines



Plate 15: Site Visit 20/12/22 – General broken out material in west of the site



Plate 16: Site Visit 21/12/22 – Covered and securely fenced suspected asbestos areas



Plate 17: Site Visit 21/12/22 – General broken out material in west of the site



Plate 18: Site Visit 22/12/22 – Wooden sleeper with creosote odour



Plate 19: Site Visit 04/01/23 – Continued concrete breakout and soil inspection along western boundary



Plate 20: Site Visit 04/01/23 – Excavated railway tracks



Plate 21: Site Visit 09/01/23 – Broken out concrete stockpile



Plate 22: Site Visit 12/01/23 – Broken out site looking south



Plate 23: Site Visit 17/01/23 – Excavation for manhole chamber with rainwater and groundwater



Plate 24: Site Visit 24/01/23 – Manhole chamber installed



Plate 25: Site Visit 23/01/23 – Segregated and Covered Suspected Bound Asbestos encountered (i.e. identified corrugated material bound to base of exposed concrete slab – see Plate 10)



Plate 26: Site Visit 09/03/23 – Site Visit 24/01/23 – Excavation of drainage channel within natural alluvium



Plate 27: Site Visit 09/02/23 – Stockpile of general excavated material



Plate 28: Site Visit 06/03/23 – Installation of surface water drainage and subbase formation levels

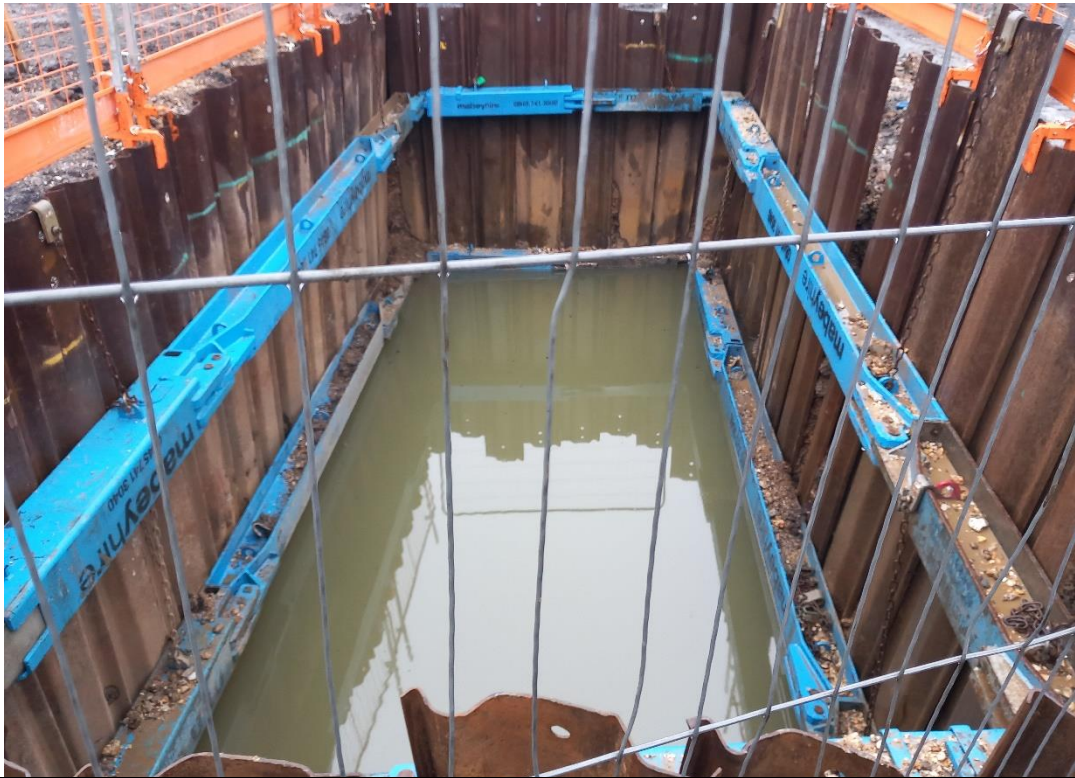


Plate 29: Site Visit 09/03/23 – Sheet pile chamber full of groundwater ahead of attenuation tank installation



Plate 30: Site Visit 09/03/23 – Stockpiled natural soils of River terrace Deposits and Wittering Formation.



Plate 31: Site Visit 21/03/23 –Continued excavation to formation level



Plate 32: Site Visit 19/04/23 – Excavation for attenuation tank into natural soils



Plate 33: Site Visit 04/07/23 –Imported material for subbase



Plate 34: Site Visit 04/07/23 – Installation of concrete surfacing.

Appendix G

LABORATORY CERTIFICATES





Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528777

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Manchester
Lancashire
M15 4RP

Attention: Craig Tyrrell

CERTIFICATE OF ANALYSIS

Date of report Generation: 02 February 2023
Customer: WSP UK Limited
Sample Delivery Group (SDG): 230114-24
Your Reference: 70095083
Location: Unit 5 Barton Park, Eastleigh
Report No: 677161
Order Number: 70095083-004

This report has been revised and directly supersedes 676715 in its entirety.

We received 2 samples on Friday January 13, 2023 and 2 of these samples were scheduled for analysis which was completed on Thursday February 02, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27407212	Stockpile 2	ESSP-2	0.00 - 0.50	12/01/2023
27407207	Topsoil Stockpile	ESTS-SP	0.00 - 0.50	12/01/2023

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Results Legend Test No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)		27407212	27407207
	Customer Sample Reference		Stockpile 2	Topsoil Stockpile
	AGS Reference		ESSP-2	ESTS-SP
	Depth (m)		0.00 - 0.50	0.00 - 0.50
	Container		1kg TUB with Handle (ALE260)	250g Amber Jar (ALE215)
	Sample Type		S	S
			S	S
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 2		
Anions by Kone (w)	All	NDPs: 0 Tests: 2		
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2		
Asbestos Quantification - Full	All	NDPs: 0 Tests: 1		
Boron Water Soluble	All	NDPs: 0 Tests: 2		
CEN Readings	All	NDPs: 0 Tests: 2		
Coronene	All	NDPs: 0 Tests: 2		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2		
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2		
EPH by GCxGC-FID	All	NDPs: 0 Tests: 2		
EPH CWG GC (S)	All	NDPs: 0 Tests: 2		
Fluoride	All	NDPs: 0 Tests: 2		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2		
Loss on Ignition in soils	All	NDPs: 0 Tests: 2		
Mercury Dissolved	All	NDPs: 0 Tests: 2		



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Results Legend



Test

No Determination
Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)

Customer
Sample Reference

AGS Reference

Depth (m)

Container

Sample Type

Metals in solid samples by OES

PAH 16 & 17 Calc

PAH by GCMS

PCBs by GCMS

pH

pH Value of Filtered Water

Phenols by HPLC (W)

Sample description

Total Organic Carbon

TPH CWG GC (S)

VOC MS (S)

27407212

Stockpile 2

ESSP-2

0.00 - 0.50

60g VOC (ALE215)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE280)	60g VOC (ALE215)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE280)
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S

S

S

S

S

S

S

27407207

Topsoil Stockpile

ESTS-SP

0.00 - 0.50

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X			X		

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
	X				X	

NDPs: 0 Tests: 2						
		X				X



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27407212	Stockpile 2	0.00 - 0.50	Light Brown	Sandy Clay Loam	Stones	Vegetation
27407207	Topsoil Stockpile	0.00 - 0.50	Light Brown	Stone/Soil	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Results Legend		Customer Sample Ref.	Stockpile 2	Topsoil Stockpile			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.50	0.00 - 0.50			
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)			
aq	Aqueous / settled sample.		12/01/2023	12/01/2023			
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.		13/01/2023	13/01/2023			
*	Subcontracted - refer to subcontractor report for accreditation status.		230114-24	230114-24			
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		27407212	27407207			
(F)	Trigger breach confirmed		ESSP-2	ESTS-SP			
1-4+5@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
Moisture Content Ratio (% of as received sample)	%	PM024	17	11			
Loss on ignition	<0.7 %	TM018	4.24 M	3.18 #			
Organic Carbon, Total	<0.2 %	TM132	1.98 M	3.18 #			
pH	1 pH Units	TM133	8.57 M	9.03 #			
PCB congener 28	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
PCB congener 52	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
PCB congener 101	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
PCB congener 118	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
PCB congener 138	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
PCB congener 153	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
PCB congener 180	<0.003 mg/kg	TM168	<0.03 M	<0.015 #			
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168	<0.21	<0.105			
Arsenic	<0.6 mg/kg	TM181	5.78 M	28.3 #			
Barium	<0.6 mg/kg	TM181	182 #	770 #			
Beryllium	<0.01 mg/kg	TM181	0.315 M	0.568 #			
Cadmium	<0.02 mg/kg	TM181	0.283 M	1.5 #			
Chromium	<0.9 mg/kg	TM181	11.9 M	5.62 #			
Copper	<1.4 mg/kg	TM181	19.6 M	87.9 #			
Lead	<0.7 mg/kg	TM181	62.7 M	338 #			
Mercury	<0.1 mg/kg	TM181	<0.1 M	<0.1 #			
Nickel	<0.2 mg/kg	TM181	11.9 M	19.3 #			
Selenium	<1 mg/kg	TM181	<1 #	1.58 #			
Vanadium	<0.2 mg/kg	TM181	21.1 #	18.6 #			
Zinc	<1.9 mg/kg	TM181	164 M	470 #			
ANC @ pH 4	<0.03 mol/kg	TM182	1.68	1.53			
ANC @ pH 6	<0.03 mol/kg	TM182	0.208	0.114			
Boron, water soluble	<1 mg/kg	TM222	<1 M	<1 #			
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		0.0019 #			
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #			
Additional Asbestos Components (Using TM048)		TM304		None #			
Analysts Comments		TM304		0			
Asbestos Quantification - Total - %	<0.001 %	TM304		0.0019 #			

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

[illegible]

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161

Superseded Report: 676715

Location: Unit 5 Barton Park, Eastleigh

VOC MS (S)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Asbestos Identification - Solid Samples

Results Legend

ISO17025 accredited.
M mCERTS accredited.
* Subcontracted test.
(F) Trigger breach confirmed
1-5&\$\$@ Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	Stockpile 2ESSP-2 0.00 - 0.50 SOLID 12/01/2023 00:00:00 13/01/2023 05:00:00 230114-24 27407212 TM048	27/01/2023	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	Topsoil StockpileESTS-SP 0.00 - 0.50 SOLID 12/01/2023 00:00:00 13/01/2023 05:00:00 230114-24 27407207 TM048	27/01/2023	James Richards	Fibre bundles in soil	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Asbestos Quantification - Full

Results Legend

ISO17025 accredited.
M mCERTS accredited.
* Subcontracted test.
(F) Trigger breach confirmed
1-5&*S@ Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	Topsoil StockpileESTS-SP	None (#)	-	0.0019 (#)	<0.001 (#)	0.0019 (#)
Depth (m)	0.00 - 0.50					
Sample Type	SOLID					
Date Sampled	12/01/2023 00:00:00					
Date Received	13/01/2023 05:00:00					
SDG	230114-24					
Original Sample	27407207					
Method Number	TM304					



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.101

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Unit 5 Barton Park, Eastleigh

Natural Moisture Content (%) 12.7

Dry Matter Content (%) 88.7

Case

SDG 230114-24

Lab Sample Number(s) 27407207

Sampled Date 12-Jan-2023

Customer Sample Ref. Topsoil Stockpile ESTS-SP

Depth (m) 0.00 - 0.50

Landfill Waste Acceptance
Criteria Limits

Solid Waste Analysis

Result

Total Organic Carbon (%) 3.18

Loss on Ignition (%) 3.18

Sum of BTEX (mg/kg) <0.4

Sum of 7 PCBs (mg/kg) <0.105

Mineral Oil (mg/kg) (EH_2D_AL) 19.1

PAH Sum of 17 (mg/kg) 11.1

pH (pH Units) 9.03

ANC to pH 6 (mol/kg) 0.114

ANC to pH 4 (mol/kg) 1.53

Inert Waste
LandfillStable
Non-reactive
Hazardous Waste
in Non-
Hazardous
LandfillHazardous
Waste Landfill

3

5

6

-

-

10

6

-

-

1

-

-

500

-

-

100

-

-

-

>6

-

-

-

-

-

-

-

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

Result

Limit of Detection

Result

Limit of Detection

Arsenic

0.00525

<0.0005

0.0525

<0.005

0.5

2

25

Barium

0.0643

<0.0002

0.643

<0.002

20

100

300

Cadmium

<0.00008

<0.00008

<0.0008

<0.0008

0.04

1

5

Chromium

0.00201

<0.001

0.0201

<0.01

0.5

10

70

Copper

0.00603

<0.0003

0.0603

<0.003

2

50

100

Mercury Dissolved (CVAF)

<0.00001

<0.00001

<0.0001

<0.0001

0.01

0.2

2

Molybdenum

0.0063

<0.003

0.063

<0.03

0.5

10

30

Nickel

0.00113

<0.0004

0.0113

<0.004

0.4

10

40

Lead

0.00225

<0.0002

0.0225

<0.002

0.5

10

50

Antimony

0.0108

<0.001

0.108

<0.01

0.06

0.7

5

Selenium

<0.001

<0.001

<0.01

<0.01

0.1

0.5

7

Zinc

0.00511

<0.001

0.0511

<0.01

4

50

200

Chloride

<2

<2

<20

<20

800

15000

25000

Fluoride

<0.5

<0.5

<5

<5

10

150

500

Sulphate (soluble)

20.4

<2

204

<20

1000

20000

50000

Total Dissolved Solids

-

-

-

-

4000

60000

100000

Total Monohydric Phenols (W)

<0.016

<0.016

<0.16

<0.16

1

-

-

Dissolved Organic Carbon

5.19

<3

51.9

<30

500

800

1000

Leach Test Information

Date Prepared 24-Jan-2023

pH (pH Units) 8.42

Conductivity (µS/cm) 117

Volume Leachant (Litres) 0.889

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

02/02/2023 13:07:05



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.103

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Unit 5 Barton Park, Eastleigh

Natural Moisture Content (%) 15.4

Dry Matter Content (%) 86.6

Case

SDG 230114-24

Lab Sample Number(s) 27407212

Sampled Date 12-Jan-2023

Customer Sample Ref. Stockpile 2 ESSP-2

Depth (m) 0.00 - 0.50

Landfill Waste Acceptance
Criteria Limits

Solid Waste Analysis

Result

Total Organic Carbon (%) 1.98

Loss on Ignition (%) 4.24

Sum of BTEX (mg/kg) <0.4

Sum of 7 PCBs (mg/kg) <0.21

Mineral Oil (mg/kg) (EH_2D_AL) 384

PAH Sum of 17 (mg/kg) 26.2

pH (pH Units) 8.57

ANC to pH 6 (mol/kg) 0.208

ANC to pH 4 (mol/kg) 1.68

Inert Waste
LandfillStable
Non-reactive
Hazardous Waste
in Non-
Hazardous
LandfillHazardous
Waste Landfill

3

5

6

-

-

10

6

-

-

1

-

-

500

-

-

100

-

-

-

>6

-

-

-

-

-

-

-

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

Result

Limit of Detection

Result

Limit of Detection

Arsenic

0.00397

<0.0005

0.0397

<0.005

0.5

2

25

Barium

0.0416

<0.0002

0.416

<0.002

20

100

300

Cadmium

<0.00008

<0.00008

<0.0008

<0.0008

0.04

1

5

Chromium

0.0075

<0.001

0.075

<0.01

0.5

10

70

Copper

0.0053

<0.0003

0.053

<0.003

2

50

100

Mercury Dissolved (CVAF)

<0.00001

<0.00001

<0.0001

<0.0001

0.01

0.2

2

Molybdenum

0.0052

<0.003

0.052

<0.03

0.5

10

30

Nickel

0.00206

<0.0004

0.0206

<0.004

0.4

10

40

Lead

0.00068

<0.0002

0.0068

<0.002

0.5

10

50

Antimony

0.0151

<0.001

0.151

<0.01

0.06

0.7

5

Selenium

<0.001

<0.001

<0.01

<0.01

0.1

0.5

7

Zinc

0.00298

<0.001

0.0298

<0.01

4

50

200

Chloride

<2

<2

<20

<20

800

15000

25000

Fluoride

<0.5

<0.5

<5

<5

10

150

500

Sulphate (soluble)

21.1

<2

211

<20

1000

20000

50000

Total Dissolved Solids

-

-

-

-

4000

60000

100000

Total Monohydric Phenols (W)

<0.016

<0.016

<0.16

<0.16

1

-

-

Dissolved Organic Carbon

6.08

<3

60.8

<30

500

800

1000

Leach Test Information

Date Prepared 24-Jan-2023

pH (pH Units) 8.43

Conductivity (µS/cm) 145

Volume Leachant (Litres) 0.887

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

02/02/2023 13:07:05

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		Site Location	Unit 5 Barton Park, Eastleigh
Mass Sample taken (kg)	0.103	Natural Moisture Content (%)	15.4
Mass of dry sample (kg)	0.090	Dry Matter Content (%)	86.6
Particle Size <4mm	>95%		

Case

SDG	230114-24			
Lab Sample Number(s)	27407212			
Sampled Date	12-Jan-2023			
Customer Sample Ref.	Stockpile 2 ESSP-2			
Depth (m)	0.00 - 0.50			

Eluate Analysis	C2 Conc ⁿ in 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		
	Result	Limit of Detection	Result	Limit of Detection	
TDS	111	<10	1110	<100	- - -

Leach Test Information

Date Prepared	24-Jan-2023
pH (pH Units)	8.43
Conductivity (µS/cm)	145
Volume Leachant (Litres)	0.887

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990:BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM152	ISO 17294-2:2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM182	CEN/TC 292 - WI 292046-characterization of waste-leaching Behaviour Tests- Acid and Base Neutralization Capacity Test	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:Soil) by ICP OES.
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4, Standard Methods for the examination of waters and wastewaters 20th Edition, PHA, Washington DC, USA. ISBN 0-87553-235-7 and The Determination of Alkalinity and Acidity in water HMSO, 1981, ISBN 0 11 751601 5.	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM410	Shaker extraction-In house coronene method	Determination of Coronene in soils by GCMS
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
TM415	Analysis of Petroleum Hydrocarbons in Environmental Media.	Determination of Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Test Completion Dates

Lab Sample No(s)	27407212	27407207
Customer Sample Ref.	Stockpile 2	Topsail Stockpile
AGS Ref.	ESSP-2	ESTS-SP
Depth	0.00 - 0.50	0.00 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)

ANC at pH4 and ANC at pH 6	19-Jan-2023	19-Jan-2023
Anions by Kone (w)	26-Jan-2023	27-Jan-2023
Asbestos ID in Solid Samples	27-Jan-2023	27-Jan-2023
Asbestos Quantification - Full		02-Feb-2023
Boron Water Soluble	25-Jan-2023	25-Jan-2023
CEN 10:1 Leachate (1 Stage)	24-Jan-2023	25-Jan-2023
CEN Readings	27-Jan-2023	27-Jan-2023
Coronene	19-Jan-2023	19-Jan-2023
Dissolved Metals by ICP-MS	27-Jan-2023	30-Jan-2023
Dissolved Organic/Inorganic Carbon	27-Jan-2023	27-Jan-2023
EPH by GCxGC-FID	18-Jan-2023	18-Jan-2023
EPH CWG GC (S)	26-Jan-2023	26-Jan-2023
Fluoride	27-Jan-2023	27-Jan-2023
GRO by GC-FID (S)	25-Jan-2023	24-Jan-2023
Loss on Ignition in soils	19-Jan-2023	18-Jan-2023
Mercury Dissolved	30-Jan-2023	30-Jan-2023
Metals in solid samples by OES	27-Jan-2023	27-Jan-2023
Moisture at 105C	24-Jan-2023	24-Jan-2023
PAH 16 & 17 Calc	18-Jan-2023	19-Jan-2023
PAH by GCMS	18-Jan-2023	18-Jan-2023
PCBs by GCMS	18-Jan-2023	18-Jan-2023
pH	18-Jan-2023	18-Jan-2023
pH Value of Filtered Water	27-Jan-2023	27-Jan-2023
Phenols by HPLC (W)	27-Jan-2023	27-Jan-2023
Sample description	16-Jan-2023	16-Jan-2023
Total Organic Carbon	20-Jan-2023	20-Jan-2023
TPH CWG GC (S)	26-Jan-2023	26-Jan-2023
VOC MS (S)	17-Jan-2023	17-Jan-2023



CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

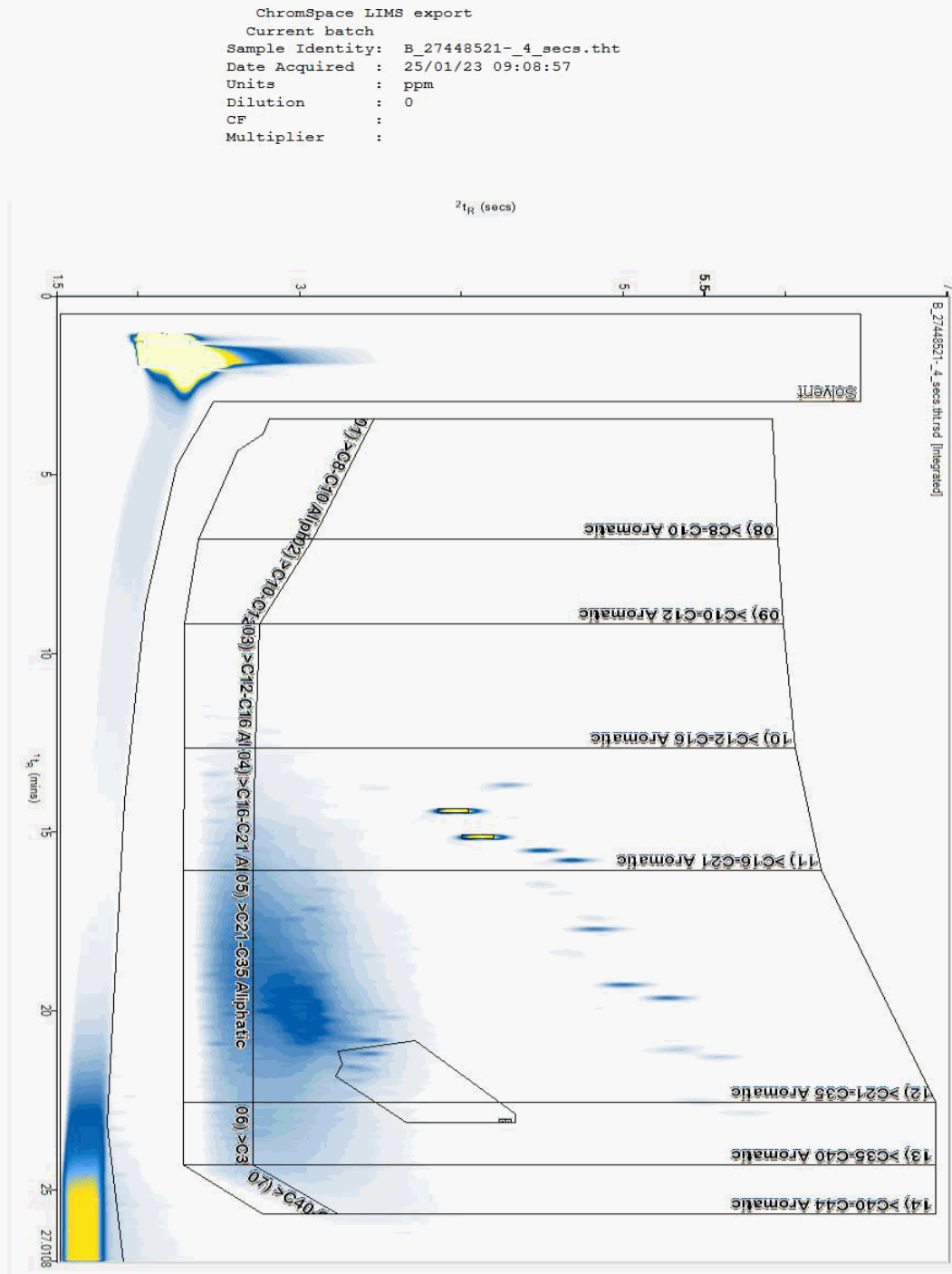
Superseded Report: 676715

Chromatogram

Analysis: EPH CWG GC (S)

Sample No : 27448521
Sample ID : Topsoil Stockpile

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

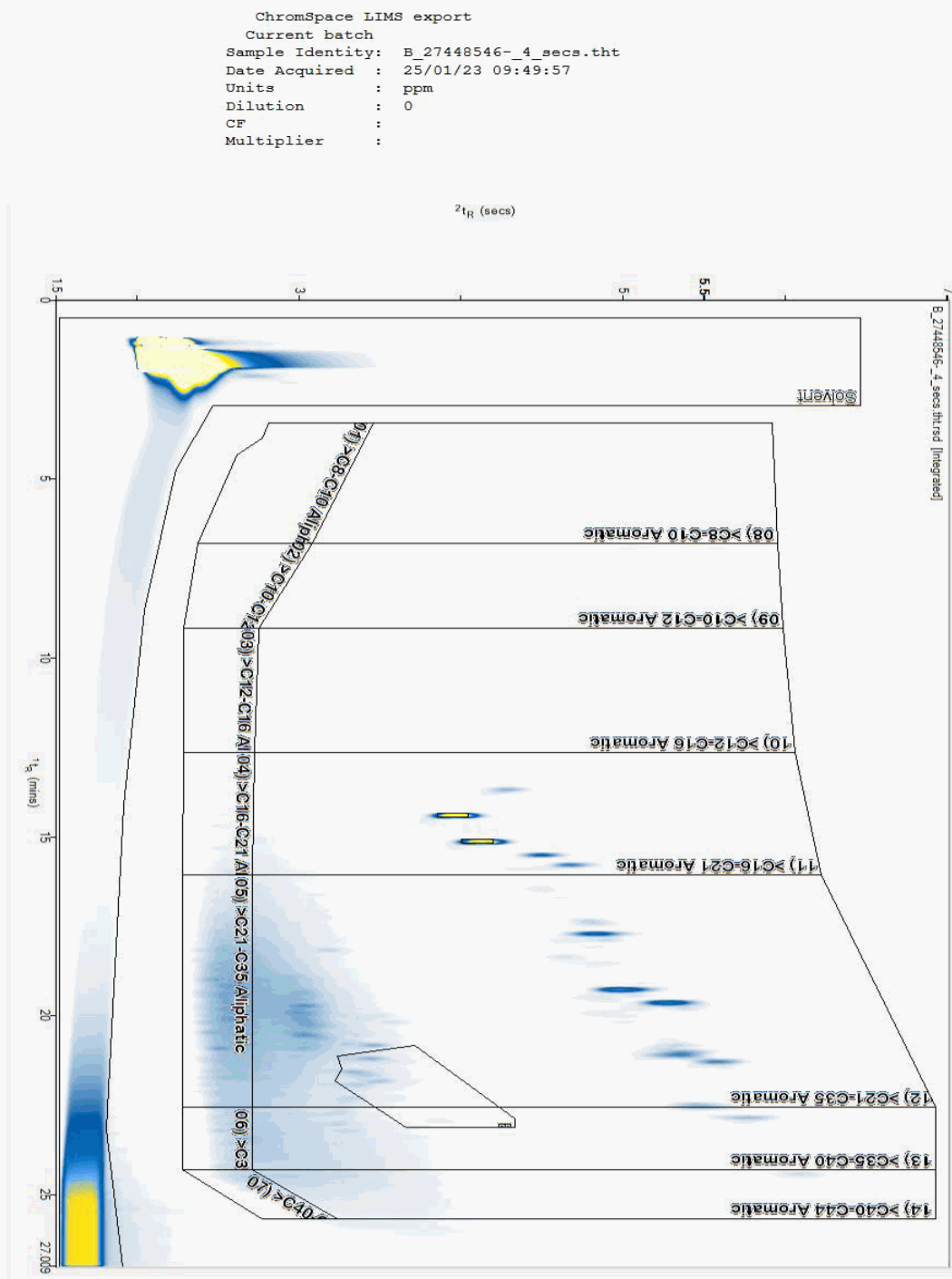
Superseded Report: 676715

Chromatogram

Analysis: EPH CWG GC (S)

Sample No : 27448546
Sample ID : Stockpile 2

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

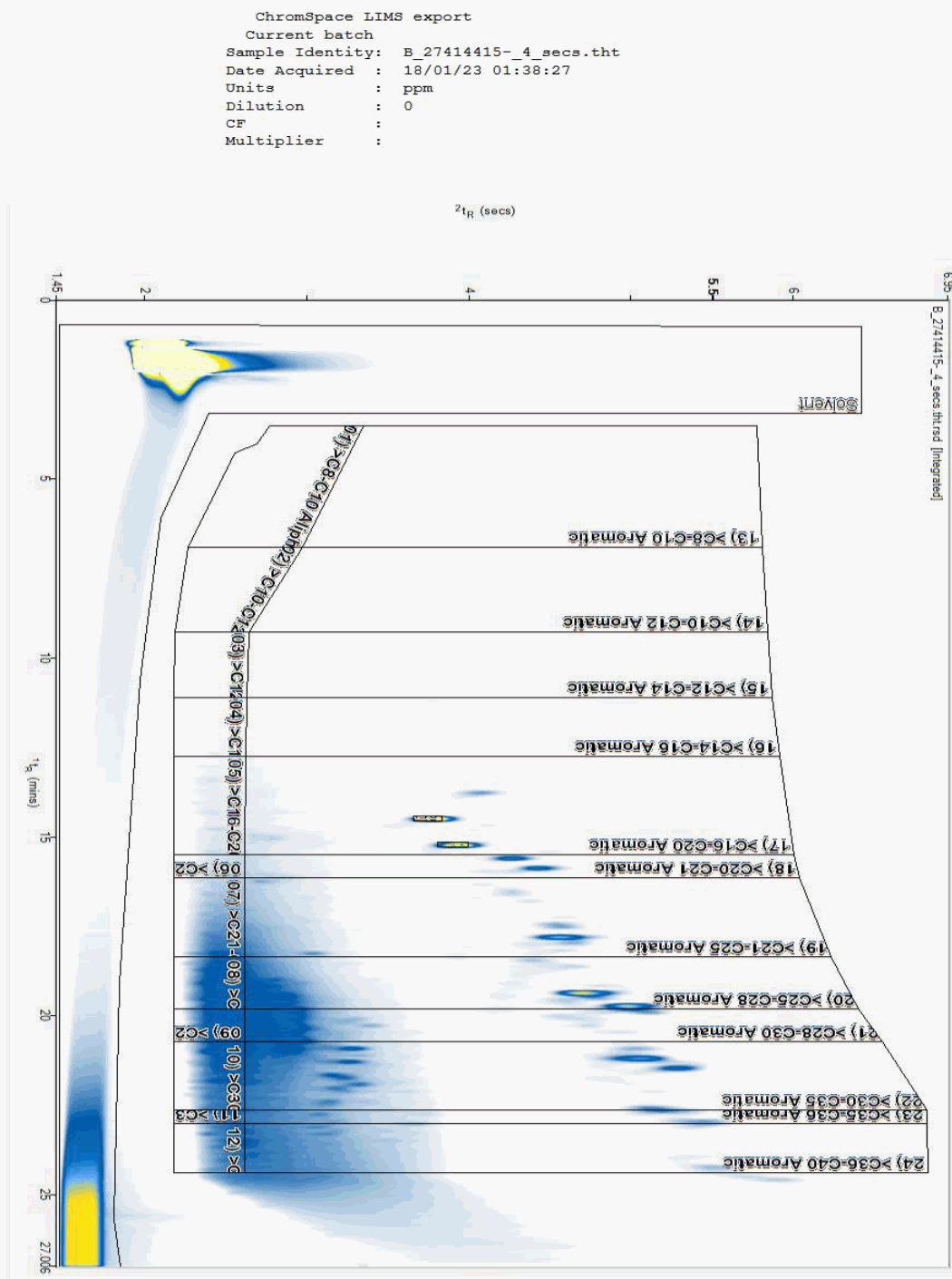
Superseded Report: 676715

Chromatogram

Analysis: EPH by GCxGC-FID

Sample No : 27414415
Sample ID : Stockpile 2

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

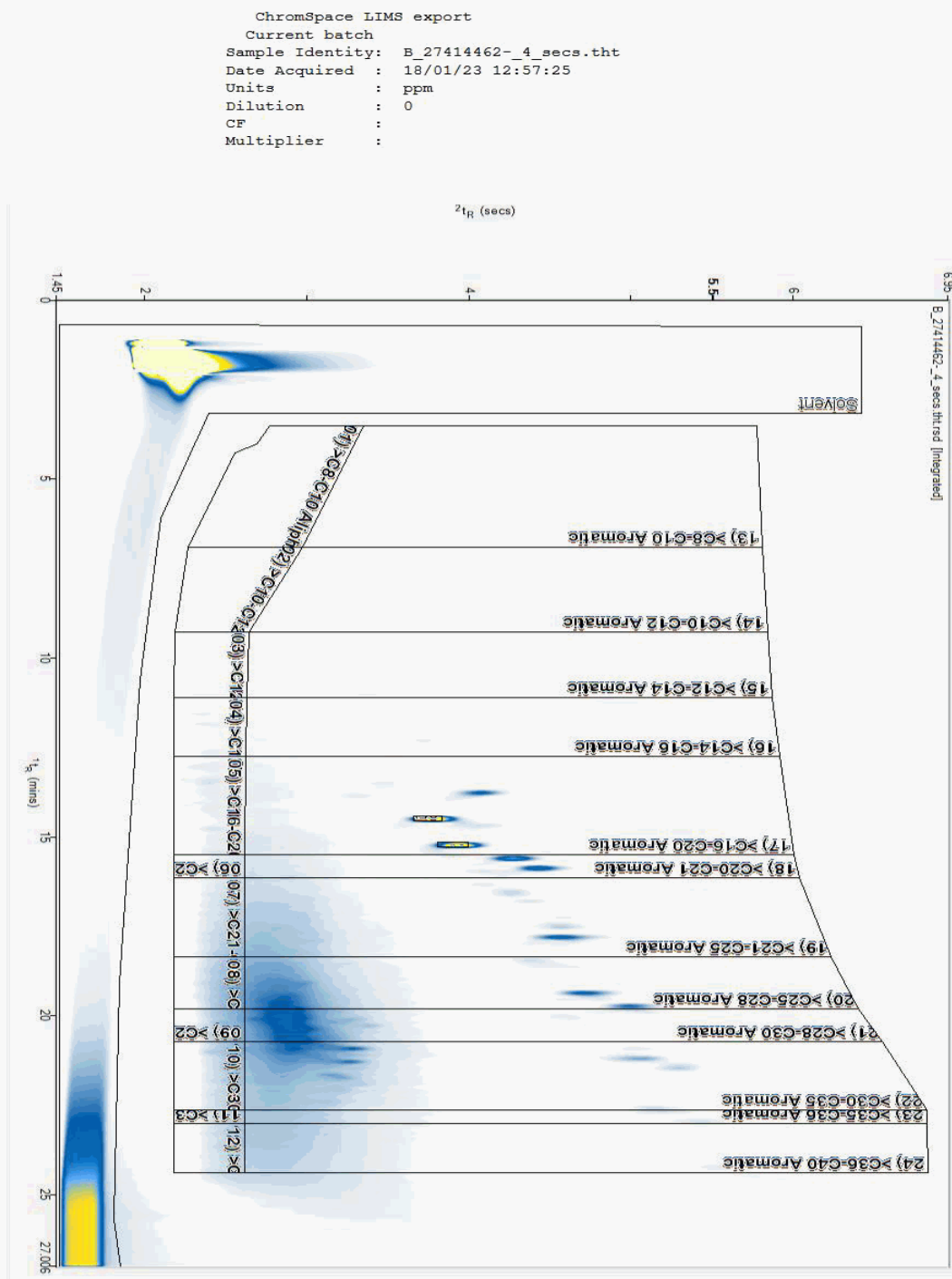
Superseded Report: 676715

Chromatogram

Analysis: EPH by GCxGC-FID

Sample No : 27414462
Sample ID : Topsoil Stockpile

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

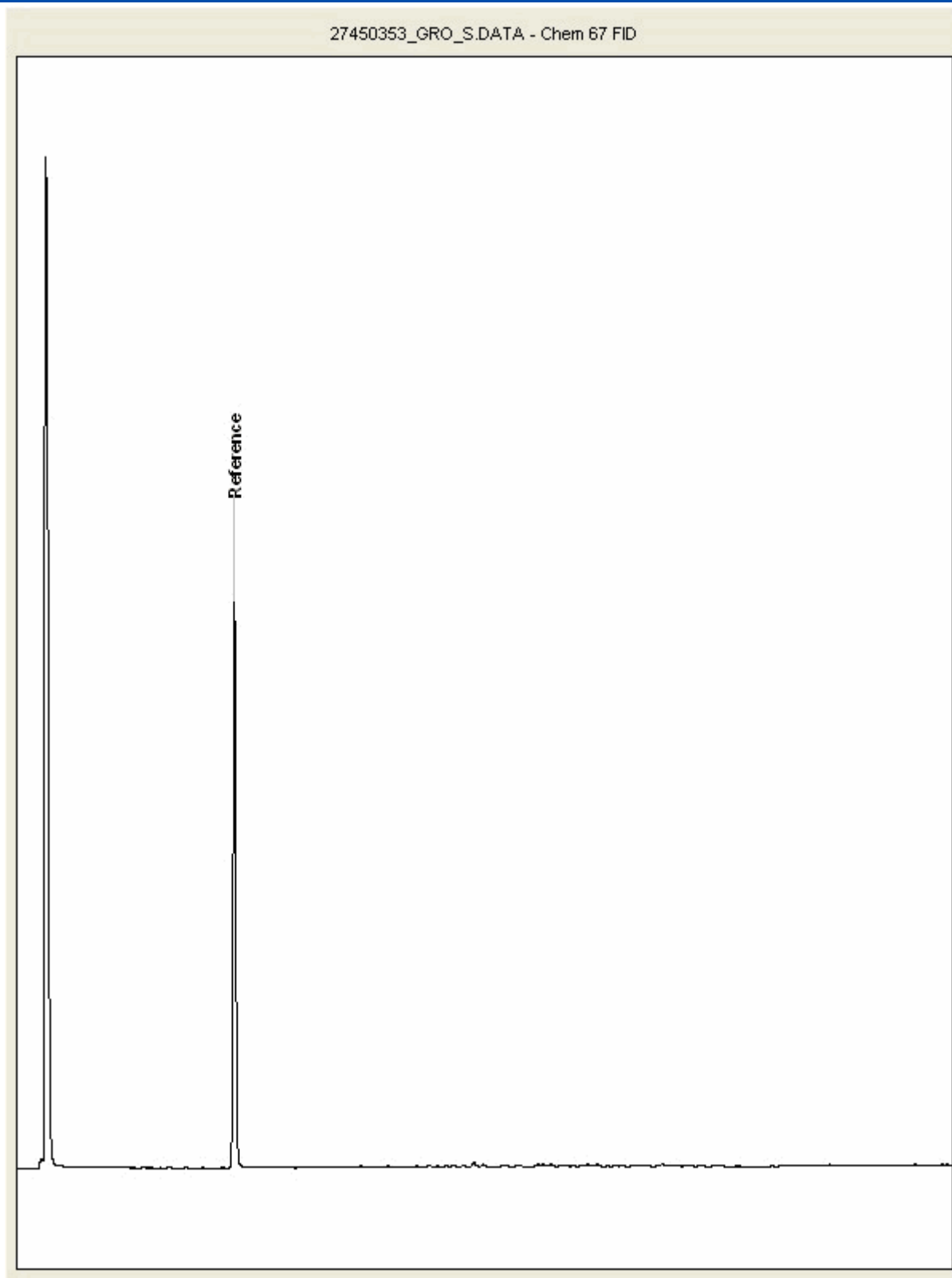
Superseded Report: 676715

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 27450353
Sample ID : Topsoil Stockpile

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

SDG: 230114-24
Client Ref.: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

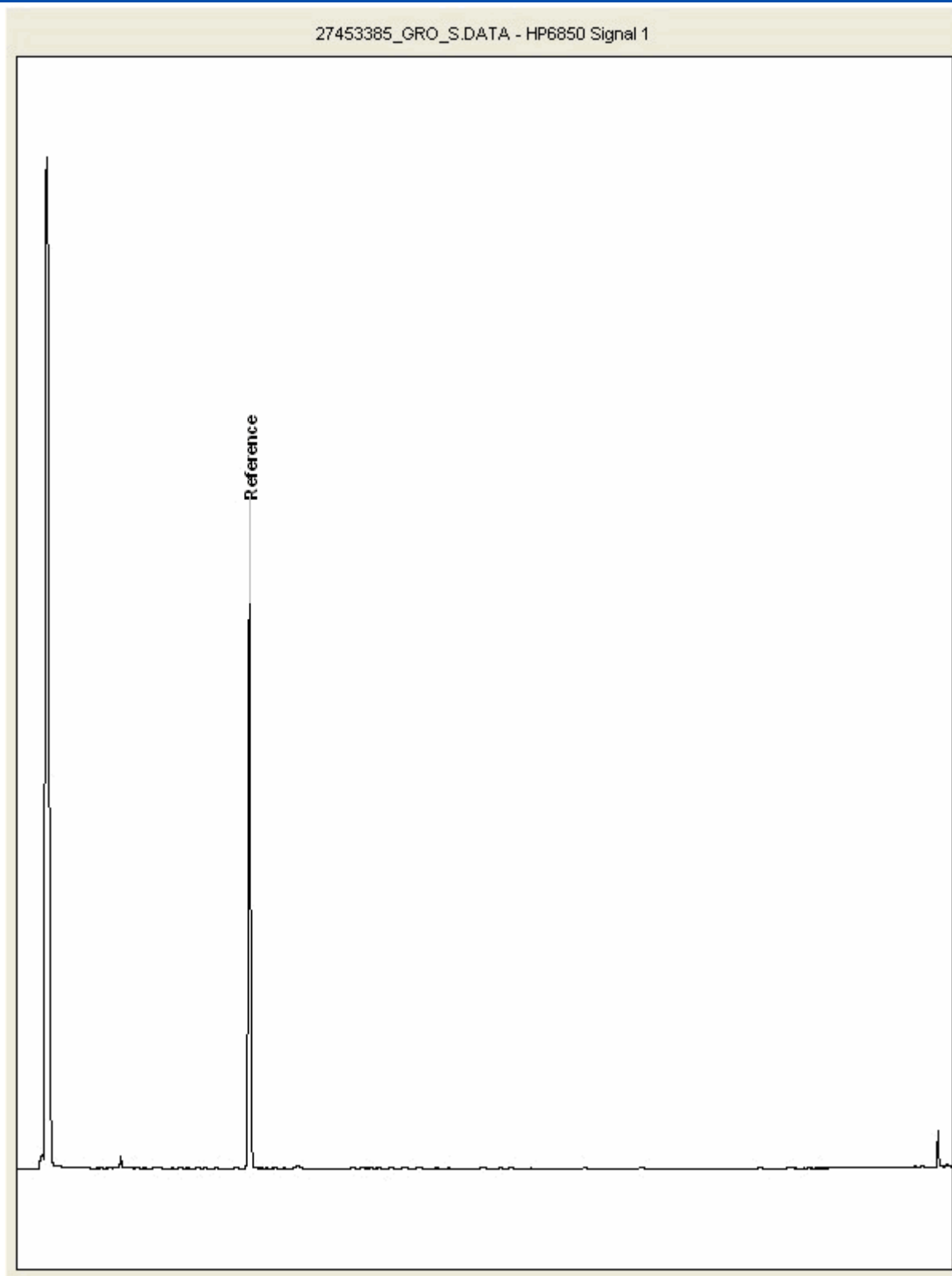
Superseded Report: 676715

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 27453385
Sample ID : Stockpile 2

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

SDG: 230114-24
Client Ref: 70095083

Report Number: 677161
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676715

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

General

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528777

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Manchester
Lancashire
M15 4RP

Attention: Craig Tyrrell

CERTIFICATE OF ANALYSIS

Date of report Generation: 30 January 2023
Customer: WSP UK Limited
Sample Delivery Group (SDG): 230120-31
Your Reference: 70095083
Location: Unit 5 Barton Park, Eastleigh
Report No: 676716
Order Number: 70095083-004

This report has been revised and directly supersedes 676386 in its entirety.

We received 3 samples on Thursday January 19, 2023 and 3 of these samples were scheduled for analysis which was completed on Monday January 30, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27433086	Stockpile 3	ESSP-3	0.00 - 0.00	17/01/2023
27433091	Stockpile 4	ESSP-4	0.00 - 0.00	17/01/2023
27433096	Stockpile 5	ESSP-5	0.00 - 0.00	17/01/2023

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)		27433086	27433091	27433096
	Customer Sample Reference		Stockpile 3	Stockpile 4	Stockpile 5
	AGS Reference		ESSP-3	ESSP-4	ESSP-5
	Depth (m)		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
	Container		1kg TUB with Handle (ALE260)	250g Amber Jar (ALE215)	60g VOC (ALE215)
	Sample Type		S	S	S
			S	S	S
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 3	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 3	X	X	X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3	X	X	X
Boron Water Soluble	All	NDPs: 0 Tests: 3	X	X	X
CEN Readings	All	NDPs: 0 Tests: 3	X	X	X
Coronene	All	NDPs: 0 Tests: 3	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3	X	X	X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 3	X	X	X
EPH by GCxGC-FID	All	NDPs: 0 Tests: 3	X	X	X
EPH CWG GC (S)	All	NDPs: 0 Tests: 3	X	X	X
Fluoride	All	NDPs: 0 Tests: 3	X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 3	X	X	X
Loss on Ignition in soils	All	NDPs: 0 Tests: 3	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 3	X	X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 3	X	X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)		27433086		27433091		27433096	
	Customer Sample Reference		Stockpile 3		Stockpile 4		Stockpile 5	
	AGS Reference		ESSP-3		ESSP-4		ESSP-5	
	Depth (m)		0.00 - 0.00		0.00 - 0.00		0.00 - 0.00	
	Container		1kg TUB with Handle (ALE280)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE280)	250g Amber Jar (ALE210)	60g VOC (ALE215)
	Sample Type		S	S	S	S	S	S
PAH 16 & 17 Calc	All	NDPs: 0 Tests: 3		X		X		X
PAH by GCMS	All	NDPs: 0 Tests: 3		X		X		X
PCBs by GCMS	All	NDPs: 0 Tests: 3		X		X		X
pH	All	NDPs: 0 Tests: 3		X		X		X
pH Value of Filtered Water	All	NDPs: 0 Tests: 3	X		X		X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 3	X		X		X	
Sample description	All	NDPs: 0 Tests: 3		X		X		X
Total Organic Carbon	All	NDPs: 0 Tests: 3		X		X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 3		X		X		X
VOC MS (S)	All	NDPs: 0 Tests: 3			X		X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27433086	Stockpile 3	0.00 - 0.00	Light Brown	Sand	Stones	None
27433091	Stockpile 4	0.00 - 0.00	Light Brown	Sand	Stones	None
27433096	Stockpile 5	0.00 - 0.00	Dark Brown	Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Results Legend		Customer Sample Ref.	Stockpile 3	Stockpile 4	Stockpile 5			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
aq	Aqueous / settled sample.		17/01/2023	17/01/2023	17/01/2023			
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.		19/01/2023	19/01/2023	19/01/2023			
*	Subcontracted - refer to subcontractor report for accreditation status.		230120-31	230120-31	230120-31			
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		27433086	27433091	27433096			
(F)	Trigger breach confirmed		ESSP-3	ESSP-4	ESSP-5			
1-4+5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Moisture Content Ratio (% of as received sample)	%	PM024	3.3	8.7	14			
Loss on ignition	<0.7 %	TM018	1.62 M	3.61 M	7.47 M			
Organic Carbon, Total	<0.2 %	TM132	0.314 M	0.894 M	3.72 M			
pH	1 pH Units	TM133	9.19 M	8.77 M	9.94 M			
PCB congener 28	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
PCB congener 52	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
PCB congener 101	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
PCB congener 118	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
PCB congener 138	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
PCB congener 153	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
PCB congener 180	<0.003 mg/kg	TM168	<0.015 M	<0.003 M	<0.06 M			
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168	<0.105	<0.021	<0.42			
Arsenic	<0.6 mg/kg	TM181	4.07 M	23.8 M	11.2 M			
Barium	<0.6 mg/kg	TM181	180 #	1090 #	310 #			
Beryllium	<0.01 mg/kg	TM181	0.063 M	0.284 M	0.387 M			
Cadmium	<0.02 mg/kg	TM181	0.467 M	1.53 M	0.544 M			
Chromium	<0.9 mg/kg	TM181	4.14 M	7.72 M	10.6 M			
Copper	<1.4 mg/kg	TM181	5.64 M	46.4 M	43 M			
Lead	<0.7 mg/kg	TM181	32.7 M	293 M	98 M			
Mercury	<0.1 mg/kg	TM181	<0.1 M	0.395 M	<0.1 M			
Nickel	<0.2 mg/kg	TM181	3.41 M	12.4 M	14.6 M			
Selenium	<1 mg/kg	TM181	<1 #	<1 #	<1 #			
Vanadium	<0.2 mg/kg	TM181	4.88 #	12.9 #	17.1 #			
Zinc	<1.9 mg/kg	TM181	63.9 M	395 M	109 M			
ANC @ pH 4	<0.03 mol/kg	TM182	1.46	1.07	1.13			
ANC @ pH 6	<0.03 mol/kg	TM182	0.298	0.124	0.297			
Boron, water soluble	<1 mg/kg	TM222	<1 M	<1 M	<1 M			
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410	102	<10	148			
Coronene	<0.2 mg/kg	TM410	0.95	<0.2	1.76			
EPH Surrogate % recovery**	%	TM415	116	104	103			
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415	26.1	5.62	33			



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

TPH CWG (S)

Results Legend		Customer Sample Ref.	Stockpile 3	Stockpile 4	Stockpile 5			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
M	mCERES accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
aq	Aqueous / settled sample.		17/01/2023	17/01/2023	17/01/2023			
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.		19/01/2023	19/01/2023	19/01/2023			
*	Subcontracted - refer to subcontractor report for accreditation status.		230120-31	230120-31	230120-31			
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		27433086	27433091	27433096			
(F)	Trigger breach confirmed		ESSP-3	ESSP-4	ESSP-5			
1-4	Sample deviation (see appendix)							
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	93.6	82.1	69.7	4		
Aliphatics >C5-C6 (HS_1D_AL)	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	4		
Aliphatics >C6-C8 (HS_1D_AL)	<0.01 mg/kg	TM089	<0.01	<0.01	0.0117	4		
Aliphatics >C8-C10 (HS_1D_AL)	<0.01 mg/kg	TM089	<0.01	<0.01	0.0105	4		
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1 #	<1 #	<1 #			
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1 #	<1 #	<1 #			
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1 #	<1 #	4.79 #			
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1 mg/kg	TM414	9.48 #	6.98 #	83.8 #			
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1	<1	49.9			
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5 mg/kg	TM414	10.5	6.98	139			
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10 mg/kg	TM414	250	56.8	673			
Aromatics >EC5-EC7 (HS_1D_AR)	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	4		
Aromatics >EC7-EC8 (HS_1D_AR)	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	4		
Aromatics >EC8-EC10 (HS_1D_AR)	<0.01 mg/kg	TM089	<0.01	<0.01	<0.01	4		
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1 mg/kg	TM414	<1 #	<1 #	1.61 #			
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1 mg/kg	TM414	4.68 #	<1 #	9.35 #			
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1 mg/kg	TM414	74.4 #	6.36 #	140 #			
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1 mg/kg	TM414	137 #	40.1 #	305 #			
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414	23.3	3.41	78.1			
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414	3.82	<1	27			
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5 mg/kg	TM414	240	49.9	534			
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10 mg/kg	TM414	250	56.8	673			
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<0.05 mg/kg	TM089	<0.05	<0.05	<0.05	4		
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<0.05 mg/kg	TM089	<0.05	<0.05	<0.05	4		
GRO >C5-C10 (HS_1D_TOTAL)	<0.02 mg/kg	TM089	<0.02	<0.02	<0.02	4		

SDG: 230120-31

Report Number: 676716

Superseded Report: 676386

Client Ref.: 70095083

Location: Unit 5 Barton Park, Eastleigh

VOC MS (S)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Asbestos Identification - Solid Samples

Results Legend

ISO17025 accredited.
M mCERTS accredited.
* Subcontracted test.
(F) Trigger breach confirmed
1-5&5@ Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref.	Stockpile 3ESSP-3 0.00 - 0.00 SOLID	27/01/2023	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)											
Sample Type	17/01/2023 00:00:00										
Date Sampled	19/01/2023 05:00:00										
Date Received	230120-31										
SDG	27433086										
Original Sample	TM048										
Method Number											
Cust. Sample Ref.	Stockpile 4ESSP-4 0.00 - 0.00 SOLID	27/01/2023	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)											
Sample Type	17/01/2023 00:00:00										
Date Sampled	19/01/2023 05:00:00										
Date Received	230120-31										
SDG	27433091										
Original Sample	TM048										
Method Number											
Cust. Sample Ref.	Stockpile 5ESSP-5 0.00 - 0.00 SOLID	27/01/2023	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)											
Sample Type	17/01/2023 00:00:00										
Date Sampled	19/01/2023 05:00:00										
Date Received	230120-31										
SDG	27433096										
Original Sample	TM048										
Method Number											



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.095

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Unit 5 Barton Park, Eastleigh

Natural Moisture Content (%) 5.49

Dry Matter Content (%) 94.8

Case

SDG 230120-31

Lab Sample Number(s) 27433086

Sampled Date 17-Jan-2023

Customer Sample Ref. Stockpile 3 ESSP-3

Depth (m) 0.00 - 0.00

Landfill Waste Acceptance
Criteria Limits

Solid Waste Analysis

Result

Total Organic Carbon (%) 0.314

Loss on Ignition (%) 1.62

Sum of BTEX (mg/kg) <0.4

Sum of 7 PCBs (mg/kg) <0.105

Mineral Oil (mg/kg) (EH_2D_AL) 26.1

PAH Sum of 17 (mg/kg) 102

pH (pH Units) 9.19

ANC to pH 6 (mol/kg) 0.298

ANC to pH 4 (mol/kg) 1.46

Inert Waste
LandfillStable
Non-reactive
Hazardous Waste
in Non-
Hazardous
LandfillHazardous
Waste Landfill

3

5

6

-

-

10

6

-

-

1

-

-

500

-

-

100

-

-

-

>6

-

-

-

-

-

-

-

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

Result

Limit of Detection

Result

Limit of Detection

Arsenic 0.00288 <0.0005 0.0288 <0.005

Barium 0.251 <0.0002 2.51 <0.002

Cadmium <0.00008 <0.00008 <0.0008 <0.0008

Chromium <0.001 <0.001 <0.01 <0.01

Copper 0.00153 <0.0003 0.0153 <0.003

Mercury Dissolved (CVAf) <0.00001 <0.00001 <0.0001 <0.0001

Molybdenum <0.003 <0.003 <0.03 <0.03

Nickel 0.000446 <0.0004 0.00446 <0.004

Lead <0.0002 <0.0002 <0.002 <0.002

Antimony 0.00178 <0.001 0.0178 <0.01

Selenium <0.001 <0.001 <0.01 <0.01

Zinc 0.00103 <0.001 0.0103 <0.01

Chloride <2 <2 <20 <20

Fluoride <0.5 <0.5 <5 <5

Sulphate (soluble) 4.5 <2 45 <20

Total Dissolved Solids - - - -

Total Monohydric Phenols (W) <0.016 <0.016 <0.16 <0.16

Dissolved Organic Carbon <3 <3 <30 <30

0.5

2

25

20

100

300

0.04

1

5

0.5

10

70

2

50

100

0.01

0.2

2

0.5

10

30

0.4

10

40

0.5

10

50

0.06

0.7

5

0.1

0.5

7

4

50

200

800

15000

25000

10

150

500

1000

20000

50000

4000

60000

100000

1

-

-

500

800

1000

Leach Test Information

Date Prepared 24-Jan-2023

pH (pH Units) 9.05

Conductivity (µS/cm) 60

Volume Leachant (Litres) 0.895

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

30/01/2023 12:24:00



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.099

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Unit 5 Barton Park, Eastleigh

Natural Moisture Content (%) 9.26

Dry Matter Content (%) 91.5

Case

SDG 230120-31

Lab Sample Number(s) 27433091

Sampled Date 17-Jan-2023

Customer Sample Ref. Stockpile 4 ESSP-4

Depth (m) 0.00 - 0.00

Landfill Waste Acceptance

Criteria Limits

Solid Waste Analysis

Result

Total Organic Carbon (%) 0.894

Loss on Ignition (%) 3.61

Sum of BTEX (mg/kg) <0.4

Sum of 7 PCBs (mg/kg) <0.021

Mineral Oil (mg/kg) (EH_2D_AL) 5.62

PAH Sum of 17 (mg/kg) <10

pH (pH Units) 8.77

ANC to pH 6 (mol/kg) 0.124

ANC to pH 4 (mol/kg) 1.07

Inert Waste
LandfillStable
Non-reactive
Hazardous Waste
in Non-
Hazardous
LandfillHazardous
Waste Landfill

3

5

6

-

-

10

6

-

-

1

-

-

500

-

-

100

-

-

-

>6

-

-

-

-

-

-

-

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

Result

Limit of Detection

Result

Limit of Detection

Arsenic

0.00419

<0.0005

0.0419

<0.005

0.5

2

25

Barium

0.173

<0.0002

1.73

<0.002

20

100

300

Cadmium

<0.00008

<0.00008

<0.0008

<0.0008

0.04

1

5

Chromium

0.00281

<0.001

0.0281

<0.01

0.5

10

70

Copper

0.00226

<0.0003

0.0226

<0.003

2

50

100

Mercury Dissolved (CVAF)

<0.00001

<0.00001

<0.0001

<0.0001

0.01

0.2

2

Molybdenum

0.00346

<0.003

0.0346

<0.03

0.5

10

30

Nickel

0.000413

<0.0004

0.00413

<0.004

0.4

10

40

Lead

0.00104

<0.0002

0.0104

<0.002

0.5

10

50

Antimony

0.00217

<0.001

0.0217

<0.01

0.06

0.7

5

Selenium

<0.001

<0.001

<0.01

<0.01

0.1

0.5

7

Zinc

0.00468

<0.001

0.0468

<0.01

4

50

200

Chloride

<2

<2

<20

<20

800

15000

25000

Fluoride

<0.5

<0.5

<5

<5

10

150

500

Sulphate (soluble)

5.7

<2

57

<20

1000

20000

50000

Total Dissolved Solids

-

-

-

-

4000

60000

100000

Total Monohydric Phenols (W)

<0.016

<0.016

<0.16

<0.16

1

-

-

Dissolved Organic Carbon

<3

<3

<30

<30

500

800

1000

Leach Test Information

Date Prepared 24-Jan-2023

pH (pH Units) 8.81

Conductivity (µS/cm) 80

Volume Leachant (Litres) 0.892

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

30/01/2023 12:24:00

12:23:46 30/01/2023



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.104

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Unit 5 Barton Park, Eastleigh

Natural Moisture Content (%) 15.7

Dry Matter Content (%) 86.4

Case

SDG 230120-31

Lab Sample Number(s) 27433096

Sampled Date 17-Jan-2023

Customer Sample Ref. Stockpile 5 ESSP-5

Depth (m) 0.00 - 0.00

Landfill Waste Acceptance
Criteria Limits

Solid Waste Analysis

Result

Total Organic Carbon (%)

3.72

Loss on Ignition (%)

7.47

Sum of BTEX (mg/kg)

<0.4

Sum of 7 PCBs (mg/kg)

<0.42

Mineral Oil (mg/kg) (EH_2D_AL)

33

PAH Sum of 17 (mg/kg)

148

pH (pH Units)

9.94

ANC to pH 6 (mol/kg)

0.297

ANC to pH 4 (mol/kg)

1.13

Inert Waste
LandfillStable
Non-reactive
Hazardous Waste
in Non-
Hazardous
LandfillHazardous
Waste Landfill

3

5

6

-

-

10

6

-

-

1

-

-

500

-

-

100

-

-

-

>6

-

-

-

-

-

-

-

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

Result

Limit of Detection

Result

Limit of Detection

Arsenic

0.00268

<0.0005

0.0268

<0.005

0.5

2

25

Barium

0.0241

<0.0002

0.241

<0.002

20

100

300

Cadmium

<0.00008

<0.00008

<0.0008

<0.0008

0.04

1

5

Chromium

0.00314

<0.001

0.0314

<0.01

0.5

10

70

Copper

0.0166

<0.0003

0.166

<0.003

2

50

100

Mercury Dissolved (CVAF)

<0.00001

<0.00001

<0.0001

<0.0001

0.01

0.2

2

Molybdenum

0.0177

<0.003

0.177

<0.03

0.5

10

30

Nickel

0.00306

<0.0004

0.0306

<0.004

0.4

10

40

Lead

<0.0002

<0.0002

<0.002

<0.002

0.5

10

50

Antimony

0.00528

<0.001

0.0528

<0.01

0.06

0.7

5

Selenium

<0.001

<0.001

<0.01

<0.01

0.1

0.5

7

Zinc

<0.001

<0.001

<0.01

<0.01

4

50

200

Chloride

<2

<2

<20

<20

800

15000

25000

Fluoride

<0.5

<0.5

<5

<5

10

150

500

Sulphate (soluble)

51.5

<2

515

<20

1000

20000

50000

Total Dissolved Solids

-

-

-

-

4000

60000

100000

Total Monohydric Phenols (W)

<0.016

<0.016

<0.16

<0.16

1

-

-

Dissolved Organic Carbon

13.6

<3

136

<30

500

800

1000

Leach Test Information

Date Prepared 24-Jan-2023

pH (pH Units) 10.41

Conductivity (µS/cm) 212

Volume Leachant (Litres) 0.885

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

30/01/2023 12:24:00

12:23:46 30/01/2023

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference	
Mass Sample taken (kg)	0.095
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location	Unit 5 Barton Park, Eastleigh
Natural Moisture Content (%)	5.49
Dry Matter Content (%)	94.8

Case

SDG	230120-31
Lab Sample Number(s)	27433086
Sampled Date	17-Jan-2023
Customer Sample Ref.	Stockpile 3 ESSP-3
Depth (m)	0.00 - 0.00

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Eluate Analysis	C2 Conc ⁿ in 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		
	Result	Limit of Detection	Result	Limit of Detection	
TDS	46	<10	460	<100	- - -

Leach Test Information

Date Prepared	24-Jan-2023
pH (pH Units)	9.05
Conductivity (µS/cm)	60
Volume Leachant (Litres)	0.895

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature ($20 \pm 5^\circ\text{C}$)

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		Site Location	Unit 5 Barton Park, Eastleigh
Mass Sample taken (kg)	0.099	Natural Moisture Content (%)	9.26
Mass of dry sample (kg)	0.090	Dry Matter Content (%)	91.5
Particle Size <4mm	>95%		

Case

SDG	230120-31
Lab Sample Number(s)	27433091
Sampled Date	17-Jan-2023
Customer Sample Ref.	Stockpile 4 ESSP-4
Depth (m)	0.00 - 0.00

Eluate Analysis	C2 Conc ⁿ in 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		
	Result	Limit of Detection	Result	Limit of Detection	
TDS	60.9	<10	609	<100	- - -

Leach Test Information

Date Prepared	24-Jan-2023
pH (pH Units)	8.81
Conductivity (µS/cm)	80
Volume Leachant (Litres)	0.892

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		Site Location	Unit 5 Barton Park, Eastleigh
Mass Sample taken (kg)	0.104	Natural Moisture Content (%)	15.7
Mass of dry sample (kg)	0.090	Dry Matter Content (%)	86.4
Particle Size <4mm	>95%		

Case

SDG	230120-31
Lab Sample Number(s)	27433096
Sampled Date	17-Jan-2023
Customer Sample Ref.	Stockpile 5 ESSP-5
Depth (m)	0.00 - 0.00

Eluate Analysis	C2 Conc ⁿ in 10:1 eluate (mg/l)		A2 10:1 conc ⁿ leached (mg/kg)		
	Result	Limit of Detection	Result	Limit of Detection	
TDS	162	<10	1620	<100	- - -

Leach Test Information

Date Prepared	24-Jan-2023
pH (pH Units)	10.41
Conductivity (µS/cm)	212
Volume Leachant (Litres)	0.885

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)



CERTIFICATE OF ANALYSIS

Validated

SDG: 230120-31
Client Ref.: 70095083

Report Number: 676716
Location: Unit 5 Barton Park, Eastleigh

Superseded Report: 676386

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990:BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM152	ISO 17294-2:2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM182	CEN/TC 292 - WI 292046-characterization of waste-leaching Behaviour Tests- Acid and Base Neutralization Capacity Test	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:Soil) by ICP OES.
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4, Standard Methods for the examination of waters and wastewaters 20th Edition, PHA, Washington DC, USA. ISBN 0-87553-235-7 and The Determination of Alkalinity and Acidity in water HMSO, 1981, ISBN 0 11 751601 5.	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM410	Shaker extraction-In house coronene method	Determination of Coronene in soils by GCMS
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
TM415	Analysis of Petroleum Hydrocarbons in Environmental Media.	Determination of Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).