



FAO Mr S Davis  
The Arun Civic Centre  
Maltravers Road  
Littlehampton  
West Sussex  
BN17 5LF

Ref: E-E1644.00/CDS

14 May 2019

CONFIDENTIAL

Dear Sirs

**Re: 90 Rose Green Road, Aldwich, PO21 3EQ AW/363/15/OUT**

This letter presents the inspection visits and results of the verification works undertaken at 90 Rose Green Road, Aldwich PO21 3EQ. This letter has been provided to assist in discharging the land quality conditions associated with the development of 5 residential houses. Specifically Planning Condition 12 state that *'Prior to the occupation of any part of the permitted development, a verification report demonstrating completion of the works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the local planning authority.'*

**General Background**

A Phase 2 Geo-Environmental Ground Investigation Report Rev E-E1644.00/NM/DRC/CDS (issued April 2017), was undertaken by Opus (now WSP), during which 8 No. mechanically dug trial pits were excavated on site with an additional 3 No. surface samples collected.

The soils assessment indicated that the made ground soils had been adversely impacted by contamination in excess of Human Health criteria and the following contaminants of concern were identified:

- ✦ Lead (elevated concentrations within all made ground samples analysed from the site);
- ✦ Asbestos in the form of chrysotile (white asbestos) and was found in six exploratory holes which comprised fragments of cement roofing/cladding and floor tiles. In one location a piece of Asbestos Insulation Board was found in the form of amosite/chrysotile.

The remediation strategy for the site included:

- ✦ To remove bulk ACM's from the surface of the development site and also hand picking of made ground to the top of the natural subsoils;
- ✦ To remove Asbestos and Lead impacted Made Ground soils from site;

Regus House  
Southampton International Business Park, George  
Curl Way  
Southampton, Hampshire  
SO18 2RZ



- » To ensure a detailed watching brief is undertaken in the event that any unsuspected contamination is encountered during the groundworks phase of the contract; and,
- » To ensure that the remediation work meets the requirements of Arun District Council Contaminated Land Team.

Communication between WSP and client was ongoing during key stages of the construction works on site which would affect the remediation works. The main remediation works commenced after completion of the demolition works, prior to the construction phase works commencing on site. A series of site inspection visits were initially undertaken during July/August 2017 and details of the works undertaken during the visits are provided below.

### **Site Inspection Visit – 13 July 2017**

All former buildings on site have been demolished and the demolition materials removed from site.

The contractor has commenced the initial made ground excavation 12th of July, along the north boundary and adjacent to the enclosure along the west boundary of the site, stockpiling the material towards the centre of the site. The licensed asbestos contractor's operatives' are hand picking the asbestos bulk products from the stockpile and placing it into labelled plastic bags. They are also picking out plastic waste and separating into a further stockpile. Two haulage vehicles were filled with made ground and sheeted prior to leaving the site.

### **Site Inspection Visit – 17 July 2017**

The contractor has continued the made ground excavations along the north boundary, carefully removing the made ground adjacent to a small tree/sapling along the boundary. The excavation adjacent to the enclosure along the west boundary of the site has been widened towards the centre of the site, stockpiling the material towards the centre/east of the site for loading directly onto Lorries.

A grader bucket has been used to undertake a final scrape across the west side of the site adjacent to the enclosure. A walkover of the remaining section of the site was undertaken to see if any Asbestos Cement fragment or made ground remained. Any suspect areas or materials were spray painted and the contractor shown for further excavation works.

The contractor's operatives' are hand picking the asbestos bulk products from the edge of the excavations and also from the stockpile and placing in to bags.

In the western half of the site a circular breeze block structure has been encountered in the natural subsoils, infilled with made ground including corroded metal fragments. The structure is potentially an old manhole/soakaway, a sample of the made ground MG2 was collected from the site for laboratory analysis.

MG2 sample was laboratory analysed for Asbestos Identification, TPH-CWG with carbon banding and aliphatic/aromatic split, BTEX compounds, Volatile Organic compounds and Speciated PAH's. No significant elevated concentrations were recorded from the sample in respect to Opus general screening values for residential development with plant uptake.

### **Site Inspection Visit – 25 July 2017**

The majority of the made ground excavations have been completed across the main development area, with a smaller excavator completing the final made ground scrape across the site exposing the natural clay subsoil. The made ground material has been stockpiled towards the centre/east of the



site for loading directly onto Lorries. The contractor's operatives' have completed the main site excavation works and are reducing their presence on site.

The former manhole/soakaway encountered on the previous site visit has been dug out exposing natural subsoil on all excavation sides.

The made ground adjacent to the south boundary wall has been battered down and runs beneath the foundation of the south boundary wall, further works will be required.

### **Site Inspection Visit – 3 August 2017**

A prolonged wet weather period had limited the works undertaken on site, since the previous visit. The site had several large puddles formed across the site and the contractor has waited for the site to 'dry up'.

Dwell projects were now on site working on the access road, removing the made ground from the access road and placing it on the stockpile on the main part of the site to be removed off site. Following excavation to formation level, a geotextile member was placed over which crushed stone which was placed and compacted with a roller.

### **Client Information – 8 August 2017**

WSP was provided photographic evidence that the made ground stockpile had been removed from site. Also the made ground had been removed to the base of the south boundary wall foundation and then sloped downwards away from the wall, where made ground remains on site concrete benching has been placed above to cut the pathway.

Once the houses were close to completion we restarted the final series of site inspections and details of the works undertaken during the visits are provided below.

### **Site Inspection Visit – 20 February 2019**

The site is nearly built out with the 5 housing plots constructed and internal fit was being undertaken at the time of the inspection. Imported topsoil has been placed to the rear of plots 1 to 3 and part of plot 4 along the north of the site. Plots 1 and 2 rear garden have been also turfed. Topsoil samples were taken from and the depth recorded as stated below:

V1 Topsoil plot 1 > 300 mm depth

V2 Topsoil plot 2 > 300 mm depth

V3 Topsoil plot 3 > 300 mm depth

V4 Topsoil plot 4 > 300 mm depth

Further imported topsoil samples V5 to V8 were collected from the enclosure adjacent to the west boundary in plot 5 for laboratory analysis, the topsoil was approximately 200 mm in depth in this area.



### **Site Inspection Visit – 20 February 2019**

The made ground beneath the former enclosure area was being excavated by a small tracked excavator placing the material into a dumper, which was stockpiling the material on the hard landscaped access turning area for collection and off-site disposal.

The excavation along the whole of the area was completed and samples VS100 to VS102 from the surface of the natural clay subsoils were collected.

Imported topsoil had been stockpiled in the rear garden of Plot 5 ready for placing across the rear of the garden. Three topsoil V8 to V10 samples were collected from the stockpile for laboratory analysis.

### **Client Information – 9 May 2019**

We were provided photographic evidence by the client showing the remaining topsoil placed in the rear garden of plot 4 and the stockpile of topsoil stockpile observed on the 5<sup>th</sup> of April spread across the rear garden of the site.

### **Subsoils**

Nineteen soil samples of the natural clay subsoils were retrieved from across the site and analysed for asbestos identification and lead. Asbestos was not detected within the samples and the Lead results were compared to the screening value stated in the Remediation Method statement, no elevated concentrations were recorded.

### **Waste Disposal**

One hundred and sixty two truckloads of non-hazardous material were removed from site by TJ Waste and Recycling Ltd and disposed at Northwood Farm, Yapton, sample waste transfer notes are enclosed.

A further three loads of hazardous asbestos waste (approximately 28.5 tonnes) were disposed by Hills Waste Solutions Limited at their Parkgate Farm, Purton site in Wiltshire, the waste transfer notes are enclosed.

### **Imported Topsoil**

We have been provided with invoices for thirteen truckloads of Topsoil BS3882(20 mm) provided by the Woodhorn Group from the Tangmere compost site.

Ten samples of the imported topsoil were selected from the soil samples retrieved from site and scheduled for chemical analysis including metals, metalloids, speciated PAH's, total phenols, TPH-CWG with carbon banding and aliphatic/aromatic split, BTEX compounds and Asbestos identification.

The results of the topsoil validation sample results have been screened against those stated in the remediation method statement. The organic contaminants have been screened against GAC's with a Soil Organic Matter (SOM) value of 2.5% based on the average SOM value of 4.2% from the laboratory analysis.

No contaminant was detected above its relevant GAC. In addition, all ten topsoil samples were reported to be free of asbestos. The imported topsoil material is therefore considered suitable for use on site for a residential development with plant uptake end use scenario.

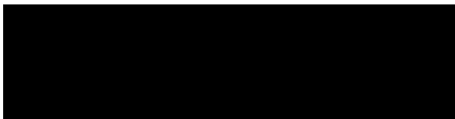


### **Enclosed Documents Relevant to Remediation Work**

- ✦ Site Photographs
- ✦ Site Notes 13 August 2017 and 5 April 2019
- ✦ Waste Acceptance Criteria analysis DETS report 18-73994
- ✦ Waste Transfer Notes (TJ Waste Recycling Ltd and Hills Waste Solutions Ltd)
- ✦ Fibre Counting Report (Envirochem reports from 12/7/17, 13/7/17 and 19/7/17)
- ✦ MG2, Certificate of Analysis, Concept Life Sciences Ltd ref. 669103-1
- ✦ Confirmation Subsoil, Certificate of Analysis, Concept Life Sciences Ltd ref. 669105-1, 671546-1, 673272-1 and ALS Life Services Ltd 502005
- ✦ Confirmation Topsoil, Certificate of Analysis, ALS Life Services Ltd 495073, 495166, 502005

If you require any further information regarding the above, do not hesitate to contact the undersigned

Regards



Chris Summers

CC Wilson designer Homes Ltd



Photograph 1: Initial made ground excavation west side of the site - 13 July 2017



Photograph 2: Initial made ground excavation north side of the site - 13 July 2017



Photograph 3: Excavator stockpiling made ground material from the north side of the site — 13 July 2017



Photograph 4: P7171018 - Final scrape along the west side of the site — 17 July 2017



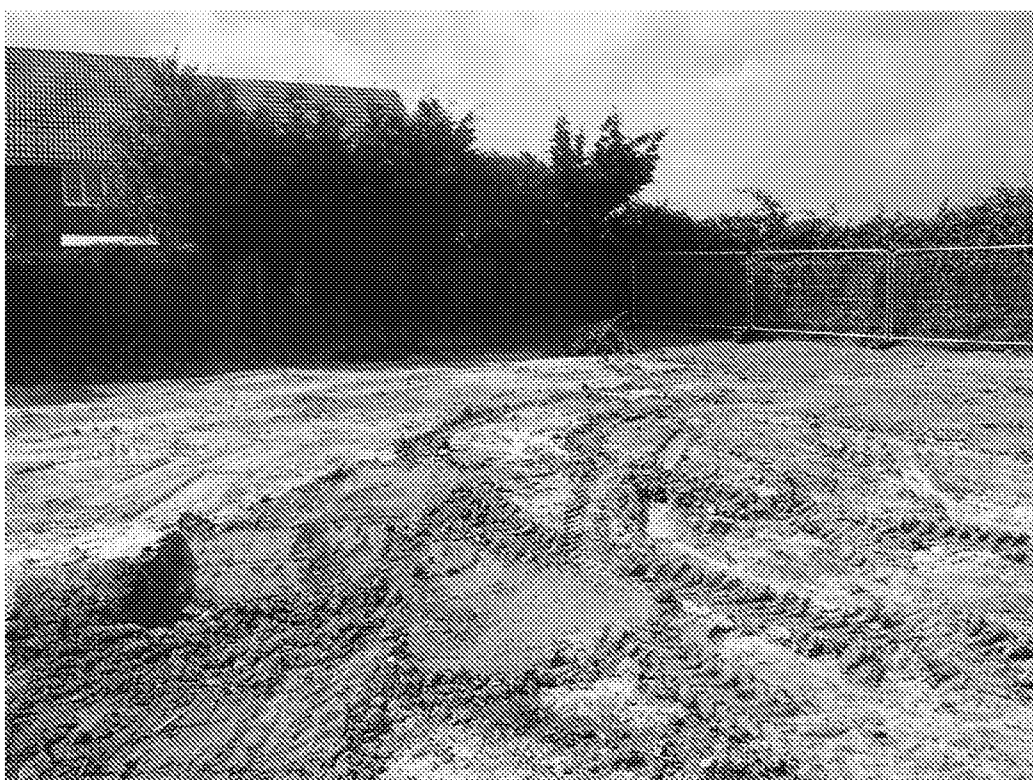
Photograph 5: Further excavation along the north boundary of the site – 17 July 2017



Photograph 6: Detailed view of circular breeze block manhole or soakaway pit infilled with made ground, centre of the site – 17 July 2017



Photograph 7: General view of made ground stockpile – 17 July 2017



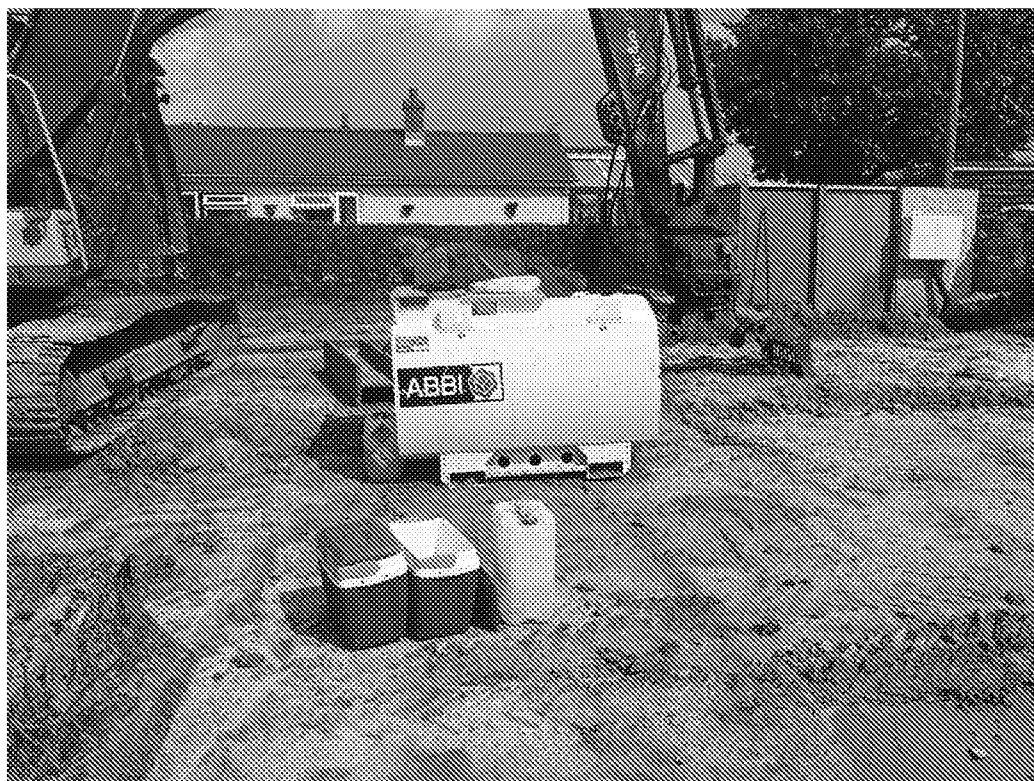
Photograph 8: General view of exposed clay subsoil towards the north west corner of the site – 25 July 2017



Photograph 9: General view of final scrape along the north boundary of the site – 25 July 2017



Photograph 10: General view of made ground stockpile towards the east of the site – 25 July 2017



Photograph 11: General view of final scrape exposing clay south east corner of the site – 25 July 2017



Photograph 12: General view of south boundary wall – 25 July 2017



Photograph 13: Detailed view of made ground beneath the south boundary wall foundation – 25 July 2017



Photograph 14: General view of south west corner after completion of the made ground scrape – 3 August 2017



Photograph 15: General view of north west corner after completion of the made ground scrape – 3 August 2017



Photograph 16: General view across the site towards the north east corner – 3 August 2017



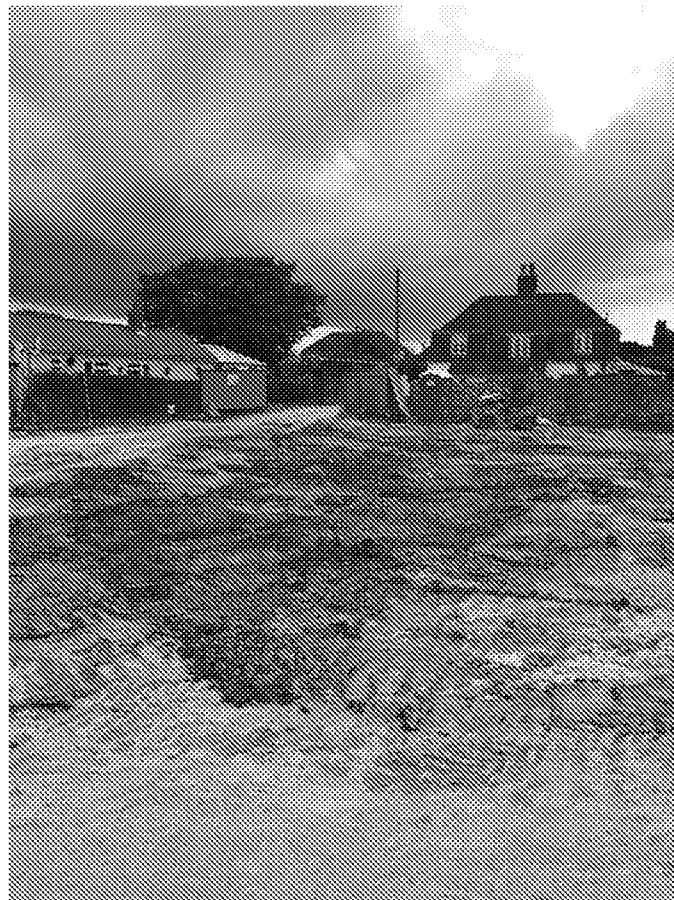
Photograph 17: General view across the site towards the south east corner of the site, foreground shows former manhole/cess pit excavated – 3 August 2017



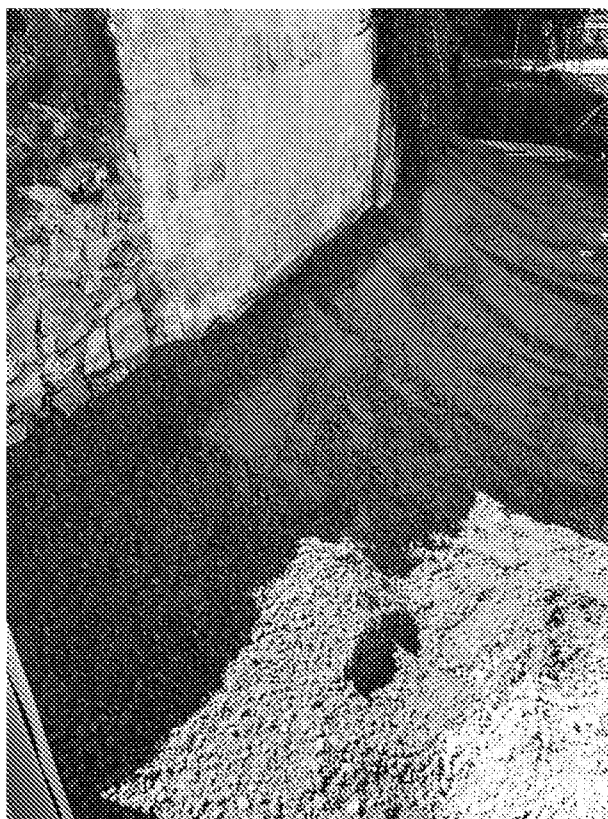
Photograph 18: General view of access lane with made ground replaced with crushed rock on a geotextile – 3 August 2017



Photograph 19: General view of access lane with crushed rock being compacted -- 3 August 2017



Photograph 20: General view of made ground stockpile removed -- 8 August 2017



Photograph 21: General view of concrete benching to the south boundary wall --- 8 August 2017



Photograph 22: General view of concrete benching to the south boundary wall -- 8 August 2017



Photograph 23: General view of turf placed to rear garden plots 1 and 2 -- 20 February 2019



Photograph 24: General view of turf placed to rear garden plots 1 to 3 -- 20 February 2019



Photograph 25: General view of topsoil placed to front garden plot 1 – 20 February 2019



Photograph 26: Detailed view of hand pit in plot 1, sample VS1 topsoil, depth >0.2m – 20 February 2019



Photograph 27: Detailed view of hand pit in plot 2, sample VS2 topsoil, depth >0.3m -- 20 February 2019



Photograph 28: Detailed view of hand pit in plot 3, sample VS3 topsoil, depth >0.3m depth -- 20 February 2019



Photograph 29: Detailed view of hand pit in plot 4, sample VS4 topsoil, depth >0.3m -- 20 February 2019



Photograph 30: General view of imported topsoil being moved from the enclosure in preparation from the made ground excavation -- 3 April 2019



Photograph 31: General view of excavation exposing the natural subsoil adjacent to the east boundary – 5 April 2019



Photograph 32: General view of excavation exposing the natural subsoil adjacent to the east boundary – 5 April 2019



Photograph 33: Implanted topsoil stockpile for placement across plot 5 – 5 April 2019



Photograph 34: General view of plot 1 rear garden turfed – 9 May 2019



Photograph 35: General view of topsoil placed in plot 4 rear garden – 9 May 2019



Photograph 36: Plot 5 – General view of topsoil placed in plot 5 rear garden – 9 May 2019

# SITE VISIT RECORD

Sheet No. 1 of 1

**Contract:**  
**90 Rose Green, Bognor Regis**

**Contractor:**  
**T J Waste and Recycling Ltd**

**Day & Date of Visit:** 13 June 2017

**Arrival Time:** 14:00

**Departure Time:** 16:30

**Weather and Site Conditions:** Dry and sunny

**Contractor's Site Representative on Site:**

**No. Contractor's Employees On Site**

## **Contractor's Activities & Plant On Site (Employees, Subcontractors, idle and working plant etc)**

Plant on site:-  
Welfare unit;  
Double skinned fuel bowser;  
Large tracked excavator (approx. 25 tonne); and  
6 yard skip for Asbestos bulk products.  
15 yard skip for vegetation

## **Health & Safety and Environmental Compliance (Notify contractor of any non-compliances)**

Simon Pratt and assistant of Envirochem Ltd undertaking reassurance air monitoring works to determine Airborne fiber concentration at boundary and on personnel whilst the remediation excavation works are taking place. No concerns raised by the operative's and airborne results are considered satisfactory.

## **Site Records/Observations**

Site inspection visit 1 - Remediation excavation

All former buildings on site have been demolished and the demolition materials removed from site.

The contractor has commenced the initial made ground excavation 12<sup>th</sup> of July, along the north boundary and adjacent to the enclosure along the west boundary of the site, stockpiling the material towards the center of the site. The contractor's operatives' are hand picking the asbestos bulk products from the stockpile and placing it into bags labelled "Warning contains Asbestos". They are also picking out plastic waste and separating into a further stockpile. Two haulage vehicles filled with made ground and sheeted prior to leaving the site.

No verification samples collected from site during this visit.

**Signature:**

# SITE VISIT RECORD

Sheet No. 1 of 1

**Contract:**  
**90 Rose Green, Bognor Regis**

**Contractor:**  
**T J Waste and Recycling Ltd**

**Day & Date of Visit:** 17 June 2017

**Arrival Time:** 11:15

**Departure Time:** 16:30

**Weather and Site Conditions:** Dry and sunny

**Contractor's Site Representative on Site:**

**No. Contractor's Employees On Site**

## **Contractor's Activities & Plant On Site (Employees, Subcontractors, idle and working plant etc)**

Plant on site:-  
Welfare unit;  
Double skinned fuel bowser;  
Large tracked excavator; and  
6 yard skip for Asbestos bulk products.

## **Health & Safety and Environmental Compliance (Notify contractor of any non-compliances)**

None

## **Site Records/Observations**

Site inspection visit 2 - remediation excavation

The contractor has continued the made ground excavations along the north boundary, carefully removing the made ground adjacent to small tree along the boundary. The excavation adjacent to the enclosure along the west boundary of the site has been widened towards the center of the site, stockpiling the material towards the center/east of the site for loading directly onto lorries. A grader bucket has undertaken a final scrape across the west side of the site adjacent to the enclosure. The contractor's operatives are hand picking the asbestos bulk products from the edge of the excavations and also the stockpile and placing in to bags.

In the western half of the site a circular breeze block structure has been encountered in the natural subsoils, infilled with made ground including corroded metal fragments. The structure is potentially an old manhole/soakaway, a sample of the made ground MG2 was collected from the site for laboratory analysis.

CBR testing was undertaken along the access lane in a series of shallow hand dug pits.

Samples VS1 to VS3 of the natural subsoil adjacent to the east of the enclosure were retrieved for laboratory analysis.

**Signature**

# SITE VISIT RECORD

Sheet No. 1 of 1

**Contract:**  
**90 Rose Green, Bognor Regis**

**Contractor:**  
**T J Waste and Recycling Ltd**

**Day & Date of Visit:** 25 June 2017

**Arrival Time:** 14:00

**Departure Time:** 16:00

**Weather and Site Conditions:** Dry and sunny

**Contractor's Site Representative on Site:**

**No. Contractor's Employees On Site**

## **Contractor's Activities & Plant On Site (Employees, Subcontractors, idle and working plant etc)**

Plant on site:-  
Double skinned fuel bowser;  
Large tracked excavator;  
Small tracked excavator; and  
Locked skip for Asbestos bulk products.

## **Health & Safety and Environmental Compliance (Notify contractor of any non-compliances)**

None

## **Site Records/Observations**

Site inspection visit 3 - remediation excavation

The made ground excavations have nearly been completed across the main development area, with a smaller excavator completing the final made ground scrape across the site exposing the natural clay subsoil. The made ground material has been stockpiled towards the center/east of the site for loading directly onto lorries.

The former manhole/soakaway encountered on the previous site visit has been dug out exposing natural subsoil on all excavation sides and the base.

The made ground has been battered down adjacent to the south boundary wall, a couple of hand dug pits were excavated in the batter exposing the base of the wall. The boundary wall has been founded on the made ground, which runs beneath the foundation. It was decided the only way to not destabilise the wall was to batter back the made ground from the base of the foundation and place a layer of concrete over the made ground breaking the contamination pathway.

Surface subsoil samples VS4 to VS7 were collected from site for laboratory analysis

**Signature.**

# SITE VISIT RECORD

Sheet No. 1 of 1

**Contract:**  
**90 Rose Green, Bognor Regis**

**Contractor:**  
**Dwell Projects**

**Day & Date of Visit:** 3 August 2017

**Arrival Time:** 10:00

**Departure Time:** 12:00

**Weather and Site Conditions:** Overcast with sunny spells

**Contractor's Site Representative on Site:**

**No. Contractor's Employees On Site**

## **Contractor's Activities & Plant On Site (Employees, Subcontractors, idle and working plant etc)**

Plant on site:-

Double skinned fuel bowser;

Large tracked excavator (parked up);

Small tracked excavator;

Dumper;

Roller; and

Toilet.

## **Health & Safety and Environmental Compliance (Notify contractor of any non-compliances)**

None

## **Site Records/Observations**

Site inspection visit 3 - access road

A prolonged wet weather period had limited the work undertaken since the previous site visit. The site had several large puddles formed across the site and the contractor was waiting for the site to dry up.

Dwell projects were now on site working on the access road, removing the made ground from the access road and placing it on the stockpile on the main part of the site to be removed off site. When they had excavated to formation they placed a geotextile over and placed crushed stone which compacted with a roller.

Further subsoil samples VS8 to VS16 were collected from site for laboratory analysis

**Signature**

# SITE VISIT RECORD

Sheet No. 1 of 1

**Contract:**  
**90 Rose Green, Bognor Regis**

**Contractor:**  
**Dwell Projects**

**Day & Date of Visit:** 20 February 2019

**Arrival Time:** 10:00

**Departure Time:** 13:30

**Weather and Site Conditions:** Overcast with sunny spells

**Contractor's Site Representative on Site:**

**No. Contractor's Employees On Site**

**Contractor's Activities & Plant On Site (Employees, Subcontractors, idle and working plant etc)**

Plant on site:-

**Health & Safety and Environmental Compliance (Notify contractor of any non-compliances)**

None

**Site Records/Observations**

Site inspection visit 5

The site is nearly built out with the 5 plots constructed and internal fit out being undertaken. Imported topsoil has been placed to the rear of plots 1 to 3 and part of plot 4. Plots 1 and 2 have been also turfed. Topsoil samples were taken from and the depth recorded as stated below:

V1 Topsoil plot 1 > 300mm depth

V2 Topsoil plot 2 > 300mm depth

V3 Topsoil plot 3 > 300mm depth

V4 Topsoil plot 4 > 300mm depth

Further imported topsoil samples V5 to V8 were collected from the enclosure adjacent to the west boundary in plot 5.

**Signature**

# SITE VISIT RECORD

Sheet No. 1 of 1

**Contract:**  
90 Rose Green, Bognor Regis

**Contractor:**  
Dwell Projects

**Day & Date of Visit:** 5 April 2019

**Arrival Time:** 13:00

**Departure Time:** 14:30

**Weather and Site Conditions:** Overcast and dry

**Contractor's Site Representative on Site:**

**No. Contractor's Employees On Site**

## **Contractor's Activities & Plant On Site (Employees, Subcontractors, idle and working plant etc)**

Plant on site:-  
Small tracked excavator  
dumper

## **Health & Safety and Environmental Compliance (Notify contractor of any non-compliances)**

None

## **Site Records/Observations**

Site inspection visit 6

The made ground in beneath the former enclosure area was being excavated by a small tracked excavator placing into a dumper, which was stockpiling the material on the access turning area for collection by off-site disposal.

The excavation along the whole of the area was completed and samples VS100 to VS102 from the surface of the natural clay were collected.

Imported topsoil had been stockpiled in the rear garden of Plot 5 ready for placing across the rear of the garden. Three topsoil samples V8 to V10 were collected for laboratory analysis.

**Signature**

# WASTE & RECYCLING LTD

## CONTROLLED WASTE TRANSFER NOTE

### INCOMING

TJW Yapton  
Yapton MRF  
Northwood Farm  
Burnell Road  
BN18 0HR

Site Licence No: EPR/003506EN

Issued By: Environment Agency

Ticket Number: 1124190

Customer Account: TJW001

1 J Waste & Recycling Ltd

Liberty Farm

127 Wickham Road

Eastham

Hants.

PO17 5BP

SRG Code: 41.10

Transaction Date: 13/07/17

Vehicle Registration: E12 TJT

Haulier: TJ Transport Ltd

Waste Carrier's  
Reg Number: CH3M3250-6

Order No:

Cost Ref:

Source: BDG

Tipping Zone: TJW001

Product Code:

Non Haz Spoil 170504

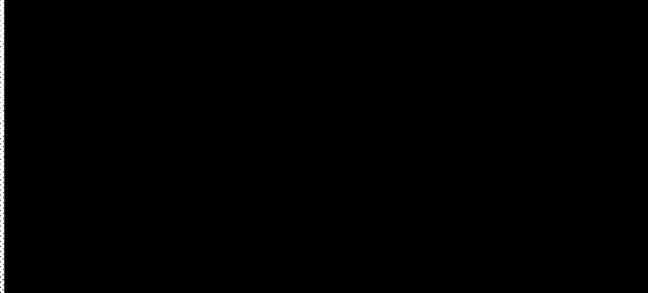
EWG Code: 17 05 04

Driver: S Nicholson

Comments:

| Date               | Tally  | Weight(kg)   |
|--------------------|--------|--------------|
| 13/7/17            | MANUAL | 30897        |
| 13/7/17            |        | 12620        |
| <b>Net Weight:</b> |        | <b>18277</b> |

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

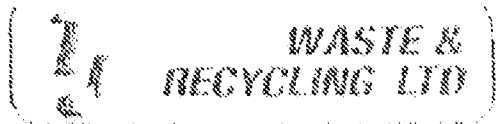


Site Operator Number: 3749

Site Operator's Name: Peter Sharrow

Site Operator's Signature:

Builders Waste & Rubble found underground



CONTROLLED WASTE TRANSFER NOTE

INCOMING

TJW Ypton  
Farm Yard  
off Twyford Avenue  
Ypton  
PO2 8QR

125

Site Licence Ref: EPR/B13500CN  
Issued By: Environment Agency  
Ticket Number: 5 00100

Customer Account: TJW001  
T J Waste & Recycling Ltd  
Charley Farm  
127 Wickham Road  
Cham  
PO17 5BP

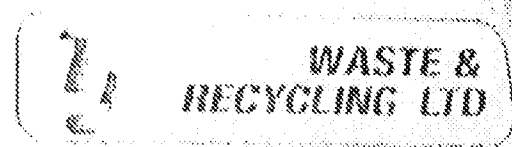
SIC Code: 41 10  
Transaction Date: 13/07/2017 09:00  
Vehicle Registration: R14111  
Harrier:  
Waste Carrier's Reg Number: C902M125011  
Order Ref:  
Cust Ref: 11210/8  
Source: B2C3  
Tipping Zone: TJW001  
Product Code:  
Builders Waste 17 09 04  
EWC Code: 17 09 04  
Driver:  
Comments:

| Date/Time        | Tally  | Weight(kg) |
|------------------|--------|------------|
| 13/07/2017 09:27 | MANUAL | 25000      |
| 13/07/2017 09:27 | MANUAL | 10000      |
| Nett Weight:     |        | 35000      |

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

Carrier/Transferor Signature

Site Operator Number: 4807  
Site Operator's Name: Andy Coventry  
Site Operator's Signature:



CONTROLLED WASTE TRANSFER NOTE

INCOMING

TJW Ypton  
Ypton BNF  
Northwood Farm  
Bundels Road  
BN18 0HR

Site Licence Ref:  
Issued By: Environment Agency  
Ticket Number: 6 15637

Customer Account: TJW001  
T J Waste & Recycling Ltd  
Charley Farm  
127 Wickham Road  
Fatchale  
Hants  
PO17 5BP

SIC Code: 41 10  
Transaction Date: 13/07/2017 09:00  
Vehicle Registration: R14111  
Harrier:  
Waste Carrier's Reg Number: C902M125011  
Order Ref:  
Cust Ref:  
Source: B2C3  
Tipping Zone: YPT1001  
Product Code:  
Builders Waste 17 09 04  
EWC Code: 17 09 04  
Driver:  
Comments:

| Date/Time        | Tally  | Weight(kg) |
|------------------|--------|------------|
| 13/07/2017 09:35 | MANUAL | 10000      |
| 13/07/2017 09:35 | MANUAL | 10000      |
| Nett Weight:     |        | 11200      |

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

Carrier/Transferor Signature



# SALES ADVICE & CONTROLLED WASTE TRANSFER NOTE

## Waste/Account Incoming

Hills Waste Solutions Ltd

Head Office:

Wiltshire House,  
County Park Business Centre,  
Shrivenham Road,  
Swindon, SN1 2NR

VAT No: 194 3710 37

Trans Date: 19/07/2017

Ticket Number: 4/49466

Disp Point: Parkgate Haz LF

Lic/Permit Nbr: NP3834LH

Issuing Auth: WEST THAMES EA

Disposal Facility: Parkgate

|                                                                                                                                                                                                                                                                                                                                                  |                                                                                                   |                                  |                                          |                                 |          |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|---------------------------------|----------|-------|
| CUSTOMER ADDRESS                                                                                                                                                                                                                                                                                                                                 | T J WASTE & RECYCLING LTD<br>CHARITY FARM<br>127 WICKHAM ROAD<br>FAREHAM<br>HAMPSHIRE<br>PO17 6BP | DELIVERY/<br>PRODUCER<br>ADDRESS | T J Waste & Recycling<br>Bonded Asbestos |                                 |          |       |
| ACCOUNT NUMBER                                                                                                                                                                                                                                                                                                                                   | T00228                                                                                            | S.I.C. CODE                      | 45.11                                    |                                 |          |       |
| CUSTOMER ORDER No.                                                                                                                                                                                                                                                                                                                               |                                                                                                   | CWTN No.                         |                                          |                                 |          |       |
| FLEET No.                                                                                                                                                                                                                                                                                                                                        |                                                                                                   | WEIGHTS                          | DATE                                     | TIME                            | TALLY No |       |
| VEHICLE REG                                                                                                                                                                                                                                                                                                                                      | R12TJT                                                                                            | 26730 kg                         | GROSS                                    | 19/07/2017                      | 7.49     | 37986 |
| VEHICLE TYPE                                                                                                                                                                                                                                                                                                                                     | 26.78M Hooklift                                                                                   | 16180 kg                         | TARE                                     | 19/07/2017                      | 8.13     | 37994 |
|                                                                                                                                                                                                                                                                                                                                                  |                                                                                                   | 10560 kg                         | NETT                                     |                                 |          |       |
| HAULIER CODE                                                                                                                                                                                                                                                                                                                                     | 244                                                                                               | 0                                | QUANTITY                                 | Consignment Note Charge Applied |          |       |
| HAULIER NAME                                                                                                                                                                                                                                                                                                                                     | T J TRANSPORT LTD                                                                                 |                                  |                                          |                                 |          |       |
| WASTE CARRIER No                                                                                                                                                                                                                                                                                                                                 | CB/SM3250JF/R002                                                                                  |                                  |                                          |                                 |          |       |
| ISSUING AUTH                                                                                                                                                                                                                                                                                                                                     | SOLENT & SOUTH DOWNS                                                                              |                                  |                                          |                                 |          |       |
| EXPIRY DATE                                                                                                                                                                                                                                                                                                                                      | 22/09/2016                                                                                        |                                  |                                          |                                 |          |       |
| PRODUCT CODE                                                                                                                                                                                                                                                                                                                                     | 10036                                                                                             |                                  |                                          |                                 |          |       |
| MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                                                             | Hazardous Asbestos - Construction                                                                 |                                  |                                          |                                 |          |       |
| EW CODE                                                                                                                                                                                                                                                                                                                                          | 17 06 05                                                                                          |                                  |                                          |                                 |          |       |
| HAZARDOUS CODES                                                                                                                                                                                                                                                                                                                                  | HP7                                                                                               |                                  |                                          |                                 |          |       |
| SOURCE                                                                                                                                                                                                                                                                                                                                           | Dorset                                                                                            |                                  |                                          |                                 |          |       |
| OPERATOR'S NAME                                                                                                                                                                                                                                                                                                                                  | Tony Jackson                                                                                      |                                  | OPERATOR'S SIGNATURE                     |                                 |          |       |
| CUSTOMER'S NAME                                                                                                                                                                                                                                                                                                                                  |                                                                                                   |                                  | CUSTOMER'S SIGNATURE                     |                                 |          |       |
| From the 30th October 2007 it is a legal requirement that all waste for Landfill is pre-treated. By signing this document you are confirming that the above conditions have been complied with. I declare that the waste hierarchy has been considered in deciding the most appropriate waste management option for the waste being transferred. |                                                                                                   |                                  |                                          |                                 |          |       |
| HAULIER'S NAME                                                                                                                                                                                                                                                                                                                                   | S JEANS                                                                                           |                                  | HAULIER'S SIGNATURE                      |                                 |          |       |
| CONSIGNMENT No's.                                                                                                                                                                                                                                                                                                                                |                                                                                                   |                                  |                                          |                                 |          |       |
| TJTRAN/00001                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |                                  |                                          |                                 |          |       |
| SUBJECT TO HILLS WASTE SOLUTIONS LIMITED TERMS & CONDITIONS OF BUSINESS WHICH ARE AVAILABLE FOR INSPECTION AT THE COMPANY'S HEAD OFFICE REGISTERED IN ENGLAND AND WALES No: 571289                                                                                                                                                               |                                                                                                   |                                  |                                          |                                 |          |       |

A record of the weights used for this transaction  
is available for six months





SALES ADVICE & CONTROLLED WASTE  
TRANSFER NOTE

Waste/Account Incoming

Hills Waste Solutions Ltd

Head Office:  
Wiltshire House,  
County Park Business Centre,  
Shrivenham Road,  
Swindon, SN1 2NR

VAT No: 194 3718 37

Trans Date: 13/07/2017

Ticket Number: 4/48465

Disp Point: Parkgate Haz LP

Lic/Permit Nbr: NP3934LH

Issuing Auth: WEST THAMES EA

Disposal Facility: Parkgate

|                                                                                                                                                                                                                                                                                                                                                  |                                                                                                   |                                  |                                          |                                 |          |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|---------------------------------|----------|-------|
| CUSTOMER ADDRESS                                                                                                                                                                                                                                                                                                                                 | T J WASTE & RECYCLING LTD<br>CHARITY FARM<br>127 WICKHAM ROAD<br>FAREHAM<br>HAMPSHIRE<br>PO17 5BP | DELIVERY/<br>PRODUCER<br>ADDRESS | T J Waste & Recycling<br>Bonded Asbestos |                                 |          |       |
| ACCOUNT NUMBER                                                                                                                                                                                                                                                                                                                                   | T00229                                                                                            | S.I.C. CODE                      | 45.11                                    |                                 |          |       |
| CUSTOMER ORDER No.                                                                                                                                                                                                                                                                                                                               |                                                                                                   | CWTN No.                         |                                          |                                 |          |       |
| FLEET No.                                                                                                                                                                                                                                                                                                                                        |                                                                                                   | WEIGHTS                          | DATE                                     | TIME                            | TALLY No |       |
| VEHICLE REG                                                                                                                                                                                                                                                                                                                                      | R12TJT                                                                                            | 25730 kg                         | GROSS                                    | 13/07/2017                      | 10.03    | 37498 |
| VEHICLE TYPE                                                                                                                                                                                                                                                                                                                                     | 26.78M Hooklift                                                                                   | 16180 kg                         | TARE                                     | 13/07/2017                      | 10.41    | 37507 |
|                                                                                                                                                                                                                                                                                                                                                  |                                                                                                   | 9550 kg                          | NETT                                     |                                 |          |       |
| HAULIER CODE                                                                                                                                                                                                                                                                                                                                     | 244                                                                                               | 0                                | QUANTITY                                 | Consignment Note Charge Applied |          |       |
| HAULIER NAME                                                                                                                                                                                                                                                                                                                                     | T J TRANSPORT LTD.                                                                                |                                  |                                          |                                 |          |       |
| WASTE CARRIER No                                                                                                                                                                                                                                                                                                                                 | CB/SM3250JF/R002                                                                                  |                                  |                                          |                                 |          |       |
| ISSUING AUTH                                                                                                                                                                                                                                                                                                                                     | SOLENT & SOUTH DOWNS                                                                              |                                  |                                          |                                 |          |       |
| EXPIRY DATE                                                                                                                                                                                                                                                                                                                                      | 22/09/2016                                                                                        |                                  |                                          |                                 |          |       |
| PRODUCT CODE                                                                                                                                                                                                                                                                                                                                     | 10036                                                                                             |                                  |                                          |                                 |          |       |
| MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                                                             | Hazardous Asbestos - Construction                                                                 |                                  |                                          |                                 |          |       |
| EWG CODE                                                                                                                                                                                                                                                                                                                                         | 17.06.05                                                                                          |                                  |                                          |                                 |          |       |
| HAZARDOUS CODES                                                                                                                                                                                                                                                                                                                                  | HP7                                                                                               |                                  |                                          |                                 |          |       |
| SOURCE                                                                                                                                                                                                                                                                                                                                           | Dorsel                                                                                            |                                  |                                          |                                 |          |       |
| OPERATOR'S NAME                                                                                                                                                                                                                                                                                                                                  | Tony Jackson                                                                                      |                                  | OPERATOR'S SIGNATURE                     |                                 |          |       |
| CUSTOMER'S NAME                                                                                                                                                                                                                                                                                                                                  |                                                                                                   |                                  | CUSTOMER'S SIGNATURE                     |                                 |          |       |
| From the 30th October 2007 it is a legal requirement that all waste for Landfill is pre-treated. By signing this document you are confirming that the above conditions have been complied with. I declare that the waste hierarchy has been considered in deciding the most appropriate waste management option for the waste being transferred. |                                                                                                   |                                  |                                          |                                 |          |       |
| HAULIER'S NAME                                                                                                                                                                                                                                                                                                                                   | S JEANS                                                                                           |                                  | HAULIER'S SIGNATURE                      |                                 |          |       |
| CONSIGNMENT No's.                                                                                                                                                                                                                                                                                                                                |                                                                                                   |                                  |                                          |                                 |          |       |
| TJTRAN/00001                                                                                                                                                                                                                                                                                                                                     |                                                                                                   |                                  |                                          |                                 |          |       |
| SUBJECT TO HILLS WASTE SOLUTIONS LIMITED TERMS & CONDITIONS OF BUSINESS WHICH ARE AVAILABLE FOR INSPECTION AT THE COMPANY'S HEAD OFFICE REGISTERED IN ENGLAND AND WALES No 571200                                                                                                                                                                |                                                                                                   |                                  |                                          |                                 |          |       |

A record of the weights used for this transaction  
is available for six months





SALES ADVICE & CONTROLLED WASTE  
TRANSFER NOTE

Waste/Account Incoming

Hills Waste Solutions Ltd  
Head Office:  
Wiltshire House,  
County Park Business Centre,  
Shrivenham Road,  
Swindon, SN1 2NR

VAT No: 104 3710 37

Trans Date: 19/07/2017  
Ticket Number: 4/49517  
Disp Point: Parkgate Haz LF  
Lic/Permit Nbr: NP3934LH  
Issuing Auth: WEST THAMES EA

Disposal Facility: Parkgate

|                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                   |  |                                  |  |                                          |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------|--|----------------------------------|--|------------------------------------------|--|
| CUSTOMER ADDRESS                                                                                                                                                                                                                                                                                                                                 |  | T J WASTE & RECYCLING LTD<br>CHARITY FARM<br>127 WICKHAM ROAD<br>FAREHAM<br>HAMPSHIRE<br>PO17 5BP |  | DELIVERY/<br>PRODUCER<br>ADDRESS |  | T J Waste & Recycling<br>Bonded Asbestos |  |
| ACCOUNT NUMBER                                                                                                                                                                                                                                                                                                                                   |  | T00229                                                                                            |  | S.I.C. CODE                      |  | 45.11                                    |  |
| CUSTOMER ORDER No.                                                                                                                                                                                                                                                                                                                               |  |                                                                                                   |  | CWTN No.                         |  |                                          |  |
| FLEET No                                                                                                                                                                                                                                                                                                                                         |  |                                                                                                   |  | WEIGHTS                          |  |                                          |  |
| VEHICLE REG                                                                                                                                                                                                                                                                                                                                      |  | R12TJT                                                                                            |  | 24490 kg                         |  | GROSS                                    |  |
| VEHICLE TYPE                                                                                                                                                                                                                                                                                                                                     |  | 26.78M Hooklift                                                                                   |  | 16180 kg                         |  | TARE                                     |  |
|                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                   |  | 8310 kg                          |  | NETT                                     |  |
| HAULIER CODE                                                                                                                                                                                                                                                                                                                                     |  | 244                                                                                               |  | 0                                |  | QUANTITY                                 |  |
| HAULIER NAME                                                                                                                                                                                                                                                                                                                                     |  | T J TRANSPORT LTD                                                                                 |  |                                  |  | Consignment Note Charge Applied          |  |
| WASTE CARRIER No                                                                                                                                                                                                                                                                                                                                 |  | CB/SM3250JF/R002                                                                                  |  |                                  |  |                                          |  |
| ISSUING AUTH                                                                                                                                                                                                                                                                                                                                     |  | SOLENT & SOUTH DOWNS                                                                              |  |                                  |  |                                          |  |
| EXPIRY DATE                                                                                                                                                                                                                                                                                                                                      |  | 22/09/2016                                                                                        |  |                                  |  |                                          |  |
| PRODUCT CODE                                                                                                                                                                                                                                                                                                                                     |  | 10036                                                                                             |  |                                  |  |                                          |  |
| MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                                                             |  | Hazardous Asbestos - Construction                                                                 |  |                                  |  |                                          |  |
| EWC CODE                                                                                                                                                                                                                                                                                                                                         |  | 17 06 05                                                                                          |  |                                  |  |                                          |  |
| HAZARDOUS CODES                                                                                                                                                                                                                                                                                                                                  |  | HP7                                                                                               |  |                                  |  |                                          |  |
| SOURCE                                                                                                                                                                                                                                                                                                                                           |  | Domest                                                                                            |  |                                  |  |                                          |  |
| OPERATOR'S NAME                                                                                                                                                                                                                                                                                                                                  |  | Tony Jackson                                                                                      |  | OPERATOR'S SIGNATURE             |  |                                          |  |
| CUSTOMER'S NAME                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                   |  | CUSTOMER'S SIGNATURE             |  |                                          |  |
| From the 30th October 2007 it is a legal requirement that all waste for Landfill is pre-treated. By signing this document you are confirming that the above conditions have been complied with. I declare that the waste hierarchy has been considered in deciding the most appropriate waste management option for the waste being transferred. |  |                                                                                                   |  |                                  |  |                                          |  |
| HAULIER'S NAME                                                                                                                                                                                                                                                                                                                                   |  | S JEANS                                                                                           |  | HAULIER'S SIGNATURE              |  |                                          |  |
| CONSIGNMENT No's                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                   |  |                                  |  |                                          |  |
| TJTRAN00001                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                   |  |                                  |  |                                          |  |
| SUBJECT TO HILLS WASTE SOLUTIONS LIMITED TERMS & CONDITIONS OF BUSINESS WHICH ARE AVAILABLE FOR INSPECTION AT THE COMPANY'S HEAD OFFICE, REGISTERED IN ENGLAND AND WALES No. 571209                                                                                                                                                              |  |                                                                                                   |  |                                  |  |                                          |  |

A record of the weights used for this transaction  
is available for six months





# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS



## Fibre Counting Report

CLIENT: Wilson Designer Homes Ltd

Our Ref: J123356 FC12

SITE ADDRESS:

90 Rose Green, Bognor Regis, PO21 3EQ

Your Ref:

SAMPLING PROTOCOL: Reassurance

SAMPLED BY: Steve Gillard - Simon Pratt

ANALYSED BY (if different):

DATE OF SAMPLING: 12/7/17

DATE OF ANALYSIS (if different):

| Filter No. | Pump  | Head | Location                          | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation: fibres/ml | Reported result fibres/ml |
|------------|-------|------|-----------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|------------------------|---------------------------|
|            |       |      |                                   |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                        |                           |
| FC1        | Pol   | SK1  | Rear wall - See Plan              | 09:16   | 11:16    | 4.0               | 4.0           | 4.0         | 480               | 200       | 3          | 0.002                  | <0.01                     |
| FC2        | END   | SK2  | Left boundary - See Plan          | 09:16   | 11:16    | 4.0               | 4.0           | 4.0         | 480               | 200       | 4          | 0.002                  | <0.01                     |
| FC3        | ENVIL | SK3  | Bottom lot - See Plan             | 09:17   | 11:17    | 4.0               | 4.0           | 4.0         | 480               | 200       | 0.5        | 0.001                  | <0.01                     |
| FC4        | AL    | SK4  | Left of Site entrance - See Plan  | 09:17   | 11:17    | 4.0               | 4.0           | 4.0         | 480               | 200       | 2.5        | 0.002                  | <0.01                     |
| FC5        | AL    | SK5  | Ahead of Site entrance - See Plan | 09:18   | 11:18    | 4.0               | 4.0           | 4.0         | 480               | 200       | 1          | 0.001                  | <0.01                     |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: Meig 12  
Stage Micrometer: USM2  
Tally Counter: S/US

Barometer: BTE 25  
Thermometer: BTE 25  
Flow Meter: FM 45

### Environment:

Temperature (°C): 16  
Pressure (mb): 1012  
Correction Factor (F):

Diam. of dust deposit (D) (mm): 22.5  
Test Slide (5 bands): Yes/No  
W/B Grate diameter (µm): 100

### Blank Filter

Head: SET  
Graticules: --  
Fibres: --

### Place of Analysis:

Lab  
On Site  
Mob Lab

### Comments

Reassurance air test carried out to determine airborne fibre concentration while digging of foundations and removal of waste. Pump dependant on digger. Results satisfactory.

SIGNATURE:

(on behalf of Envirochem)

PRINT NAME: Simon Pratt



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS



## Fibre Counting Report

CLIENT: Wilson Designer Homes Ltd

SITE ADDRESS:

90 Rose Green, Rognor Regis, PO21 3EQ

Our Ref: J123356 FC12

Your Ref:

SAMPLING PROTOCOL: Reassurance

SAMPLED BY: Steve Gillard - Simon Pratt

DATE OF SAMPLING: 12/7/17

ANALYSED BY (if different):

DATE OF ANALYSIS (if different):

| Filter No. | Pump  | Head | Location                                   | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|-------|------|--------------------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |       |      |                                            |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC8        | PO2   | SE1  | In front of site office - See Plan         | 12:14   | 14:14    | 4.0               | 4.0           | 4.0         | 480               | 200       | 0.5        | 0.001                 | <0.01                     |
| FC9        | ENV10 | SE2  | Rear boundary middle - See Plan            | 12:15   | 14:15    | 4.0               | 4.0           | 4.0         | 480               | 200       | 2.1        | 0.002                 | <0.01                     |
| FC10       | ENV16 | SE3  | Bottom left - See Plan                     | 12:15   | 14:15    | 4.0               | 4.0           | 4.0         | 480               | 200       | 2.5        | 0.002                 | <0.01                     |
| FC11       | A4    | SE4  | Centre of site See Plan                    | 12:16   | 14:16    | 4.0               | 4.0           | 4.0         | 480               | 200       | 4.5        | 0.002                 | <0.01                     |
| FC12       | A6    | SE5  | Upper Right hand of site office - See Plan | 12:17   | 14:17    | 4.0               | 4.0           | 4.0         | 480               | 200       | 1          | 0.001                 | <0.01                     |
|            |       |      |                                            |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: MEJ12

Stage Micrometer: WSM2.1

Tally Counter: S1US

Barometer: BTC25

Thermometer: ETC25

Flow Meter: FMS0

### Environment:

Temperature (°C): 16

Pressure (mb): 1012

Correction Factor (F):

Diam. of dust deposit (D) (mm): 22.5

Test Slide (5 bands): Yes/No

W/B Grate diameter (µm): 100

### Blank Filter

Head: SE7

Graticules: -

Fibres: -

### Place of Analysis:

Lab

On Site

Mob Lab

### Comments

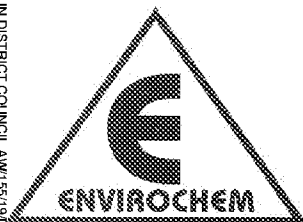
Reassurance air test carried out to determine airborne fibre concentration while digging foundations and removal of waste. Results satisfactory.

Hy14 DFC

SIGNATURE

(on behalf of Envirochem)

PRINT NAME: Simon Pratt



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS



## Fibre Counting Report

CLIENT: Wilson Designer Homes Ltd

SITE ADDRESS:

90 Rose Green, Bognor Regis, PO21 3EQ

Our Ref: J123356 For

Your Ref:

SAMPLING PROTOCOL: personal

SAMPLED BY: Steve Gillard - Simon Pratt

ANALYSED BY (if different):

DATE OF SAMPLING: 12/07/17

DATE OF ANALYSIS (if different):

| Filter No. | Pump | Head | Location                | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|------|------|-------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |      |      |                         |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC6        | AP4  | SK6  | on operative - Dan Carr | 09:15   | 10:15    | 2.0               | 2.0           | 2.0         | 120               | 200       | 3          | 0.006                 | <0.01                     |
| FC7        | AP4  | SK6  | on operative - Dan Carr | 11:50   | 12:50    | 2.0               | 2.0           | 2.0         | 120               | 200       | 0.5        | 0.001                 | <0.01                     |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: MEIJI 12

Barometer: GSC25

Stage Micrometer: WSM21

Thermometer: GTC25

Tally Counter: S/LUS

Flow Meter: PMSO

### Environment:

Temperature (°C): 16

Pressure (mb): 1012

Correction Factor (F):

Diam. of dust deposit (D) (mm): 22.5

Test Slide (5 bands): Yes/No

W/B Grate diameter (µm): 100

### Blank Filter

Head: SK7

Graticules: -

Fibres: -

### Place of Analysis:

Lab

On Site

Mo6 Lab

Hy14 OFC

### Comments

Personal air monitoring carried out on 2 operatives to determine airborne fibre concentration while the removal of rubble and waste.

SIGNATURE

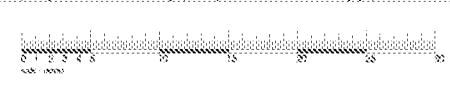
(on behalf of)

PRINT NAME: Simon Pratt

OSBORNE WAY

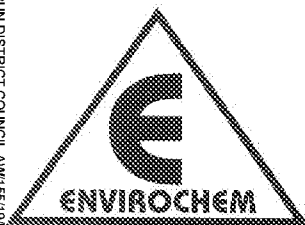


Sharnock Rosewell Architects  
410 The Grange  
Farnborough Road  
Farnborough  
GU14 7AE  
Telephone: 01794 267022 Email: jane@sharnock-rosewell.co.uk



WILSON DESIGNER HOMES  
1542 JAN 17  
1:200 A1

sharnock rosewell architecture  
90 ROSE GREEN ROAD  
PROPOSED SITE LAYOUT PLAN  
100 D



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS



CLIENT: *Wilson Designer Homes Ltd* **Fibre Counting Report**

SITE ADDRESS: *90 Rose Green, Bognor Regis, PO21 3EQ*

Our Ref: *J123357 FC12*

Your Ref:

SAMPLING PROTOCOL: *Reassurance*

SAMPLED BY: *Simon Pratt* (S. Pratt)

DATE OF SAMPLING: *13/7/17*

ANALYSED BY (if different):

DATE OF ANALYSIS (if different):

| Filter No. | Pump | Head | Location                           | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|------|------|------------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |      |      |                                    |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC1        | P02  | SK1  | Ahead of site entrance - See Plan  | 09:13   | 11:13    | 4.0               | 4.0           | 4.0         | 480               | 200       | 0.5        | 0.001                 | <0.001                    |
| FC2        | A6   | SK2  | TOP Right of site - See Plan       | 09:13   | 11:13    | 4.0               | 4.0           | 4.0         | 480               | 200       | 3          | 0.002                 | <0.01                     |
| FC3        | A4   | SK3  | Middle back boundary - See Plan    | 09:14   | 11:14    | 4.0               | 4.0           | 4.0         | 480               | 200       | 2.5        | 0.001                 | <0.01                     |
| FC4        | EN10 | SK4  | next to waste skip - See Plan      | 09:17   | 11:17    | 4.0               | 4.0           | 4.0         | 480               | 200       | 1.5        | 0.001                 | <0.01                     |
| FC5        | EN16 | SK5  | top left corner of site - See Plan | 09:18   | 11:18    | 4.0               | 4.0           | 4.0         | 480               | 200       | 4.5        | 0.002                 | <0.01                     |
|            |      |      |                                    |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

## Equipment Numbers:

Microscope: *Meji 12*  
Stage Micrometer: *USA 12*  
Tally Counter: *SYUS*

Barometer: *BTC 15*  
Thermometer: *BTC 15*  
Flow Meter: *FM 45*

## Environment:

Temperature (°C): *13*  
Pressure (mb): *1010*  
Correction Factor (F):

## Blank Filter

Head: *SK7*  
Graticules: *—*  
Fibres: *—*

## Place of Analysis:

Lab  
On Site  
Mob Lab

## Comments

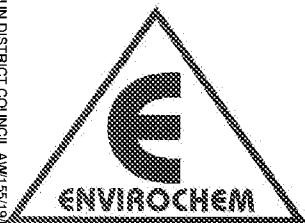
*Reassurance air test carried out to determine Airborne Fibre concentration while the digging of foundations and removal of waste. Pumps dependant on digger. Results satisfactory.*

*Hy14 DFC*

SIGNATURE:

(on behalf of Enviro)

PRINT NAME: *Simon Pratt*

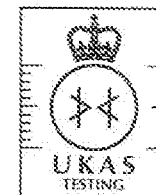


# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS

## Fibre Counting Report



CLIENT: *Wilson Desinger Homes Ltd*

SITE ADDRESS:

*90 Rose Green, Bognor Regis, PO21 3EQ*

Our Ref: *J123357 Fc12*

Your Ref:

SAMPLING PROTOCOL: *Reassurance*

SAMPLED BY: *Simon Pratt*

ANALYSED BY (if different):

DATE OF SAMPLING: *13/7/17*

DATE OF ANALYSIS (if different):

| Filter No. | Pump | Head | Location                        | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|------|------|---------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |      |      |                                 |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC8        | PO2  | SK1  | lower left of site - See Plan   | 12:31   | 14:31    | 4.0               | 4.0           | 4.0         | 480               | 200       | 4          | 0.002                 | <0.01                     |
| FC9        | AG   | SK2  | middle left of site - See Plan  | 12:31   | 14:31    | 4.0               | 4.0           | 4.0         | 480               | 200       | 3          | 0.002                 | <0.01                     |
| FC10       | AG   | SK3  | middle Right of site - See Plan | 12:32   | 14:32    | 4.0               | 4.0           | 4.0         | 480               | 200       | 1          | 0.001                 | <0.01                     |
| FC11       | EN10 | SK4  | rear middle of site - See Plan  | 12:33   | 14:33    | 4.0               | 4.0           | 4.0         | 480               | 200       | 1.5        | 0.001                 | <0.01                     |
| FC12       | EN16 | SK5  | behind site office - See Plan   | 12:33   | 14:33    | 4.0               | 4.0           | 4.0         | 480               | 200       | 1          | 0.001                 | <0.01                     |
|            |      |      |                                 |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: *Meiji 12*

Stage Micrometer: *WSM2*

Tally Counter: *SXUS*

Barometer: *BICUS*

Thermometer: *BICUS*

Flow Meter: *FM45*

### Environment:

Temperature (°C): *18*

Pressure (mb): *1010*

Correction Factor (F):

Diam. of dust deposit (D) (mm): *22.5*

Test Slide (5 bands): *Yes/No*

W/B Grate diameter (µm): *100*

### Blank Filter

Head: *SK7*

Graticules: *---*

Fibres: *---*

### Place of Analysis:

Lab

On Site

Mob Lab

### Comments

*Reassurance air monitoring carried out to determine airborne fibre concentration while digging of foundations and removal of waste, PWS Defendant in digger. Results satisfactory*

SIGNATURE: *[Signature]*  
(on behalf of Envirochem Laboratory)

PRINT NAME: *Simon Pratt*



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS



## Fibre Counting Report

CLIENT: Wilson designer Homes Ltd

SITE ADDRESS: 90 Rose Green, Egnor Regis, PO21 3EQ

Our Ref: 5123357 F012

Your Ref:

SAMPLING PROTOCOL: Personal

SAMPLED BY: Simon Peelt & S Allard

ANALYSED BY (if different):

DATE OF SAMPLING: 13/07/17

DATE OF ANALYSIS (if different):

| Filter No. | Pump | Head | Location                | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|------|------|-------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |      |      |                         |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC6        | A1   | SK6  | on operative - Dan Carr | 09:20   | 10:20    | 2.0               | 2.0           | 2.0         | 120               | 200       | 0.5        | 0.001                 | <0.04                     |
| FC7        | A1   | SK6  | on operative - Dan Carr | 12:20   | 13:20    | 2.0               | 2.0           | 2.0         | 120               | 200       | 7.         | 0.01                  | <0.04                     |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                         |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: MEY112

Stage Micrometer: W30A

Tally Counter: SUS

Barometer: ISTC25

Thermometer: ISTC25

Flow Meter: CUSO

### Environment:

Temperature (°C): 18

Pressure (mb): 1010

Correction Factor (F):

Diam. of dust deposit (D) (mm): 22.5

Test Slide (5 bands): Yes/No

W/B Grate diameter (µm): 100

### Blank Filter SK7

Head: SK7

Graticules: —

Fibres: —

### Place of Analysis:

Lab

On Site

Mob Lab

Hy14 DFC

### Comments

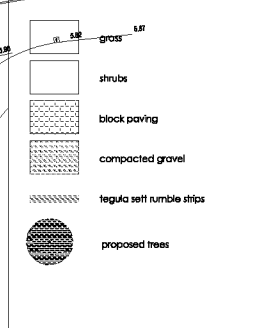
Personal air monitoring carried out to determine airborne fibre concentration while operative is removing waste.

SIGNATURE

(on behalf of)

PRINT NAME: Simon Peelt

OSBORNE WAY



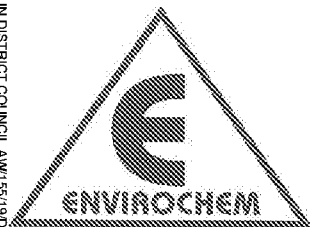
Sherlock Boswell Architecture  
410 The Grange  
Romney Road  
Titchmarsh  
SO7 5NF

Telephone: 01792 340602 Email: info@sherlockboswell.co.uk



WILSON DESIGNER HOMES  
1542  
1200  
JAN 17  
A1

sherlockboswellarchitecture  
90 ROSE GREEN ROAD  
PROPOSED SITE LAYOUT PLAN  
100 D



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS

## Fibre Counting Report



Wilson Designer Homes Ltd.

CLIENT:

SITE ADDRESS: 90 Rose Green, Bognor Regis, PO21 3EQ

Our Ref: J123358 FC12

Your Ref: -

SAMPLING PROTOCOL: Background

SAMPLED BY: Jon Prichard

ANALYSED BY (if different): -

DATE OF SAMPLING: 19/07/2017

DATE OF ANALYSIS (if different): -

| Filter No. | Pump  | Head | Location                                                                               | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|-------|------|----------------------------------------------------------------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |       |      |                                                                                        |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC2        | IL2   | S2   | Operative Jake Pope - carrying out general labour duties around site. Not wearing PPE. | 0905    | 0935     | 16.0              | 16.0          | 16.0        | 480               | 200       | 2.0        | 0.001                 | <0.01                     |
| FC3        | K1    | S3   | Operative Jake Pope - carrying out general labour duties around site. Not wearing PPE. | 0906    | 0936     | 16.0              | 16.0          | 16.0        | 480               | 200       | 0.5        | 0.001                 | <0.01                     |
| FC4        | IL2   | S1   | 90 Rose Green Building Site - see plan                                                 | 0942    | 1012     | 16.0              | 16.0          | 16.0        | 480               | 200       | 0.5        | 0.001                 | <0.01                     |
| FC5        | JS16  | S2   | 90 Rose Green Building Site - see plan                                                 | 1235    | 1013     | 16.0              | 16.0          | 16.0        | 480               | 200       | 1.0        | 0.001                 | <0.01                     |
| FC6        | K1    | S3   | 90 Rose Green Building Site - see plan                                                 | 0945    | 1015     | 16.0              | 16.0          | 16.0        | 480               | 200       | 1.0        | 0.001                 | <0.01                     |
| FC8        | ENV54 | S2   | 90 Rose Green Building Site - see plan                                                 | 1201    | 1231     | 16.0              | 16.0          | 16.0        | 480               | 200       | 1.5        | 0.001                 | <0.01                     |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: PLM 1

Stage Micrometer: WSM 13

Tally Counter: 2/US

Barometer: BTC 26

Thermometer: BTC 26

Flow Meter: FM 22

### Environment:

Temperature (°C): 20

Pressure (mb): 1016

Correction Factor (F): -

Diam. of dust deposit (D) (mm): 22.5

Test Slide (5 bands): Yes/No

W/B Grate diameter (µm): 100

### Blank Filter

Head: S4

Graticules: -

Fibres: -

### Place of Analysis:

Lab

On Site

Mod Lab RE61WPU

### Comments

Background air testing to ascertain fibre concentration in air is less than 0.01 fibres/ml. Results satisfactory.

SIGNATURE:

(on behalf of Envirochem)

ENVIROCHEM/

PRINT NAME: Jon Prichard

0V06



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS

## Fibre Counting Report



Wilson Designer Homes Ltd.

CLIENT:

SITE ADDRESS: 90 Rose Green, Bognor Regis, PO21 3EQ

Our Ref: J123358 FC12

Your Ref: -

SAMPLING PROTOCOL: Background

SAMPLED BY: Jon Prichard

ANALYSED BY (if different): -

DATE OF SAMPLING: 19/07/2017

DATE OF ANALYSIS (if different): -

| Filter No. | Pump  | Head | Location                                                                               | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|-------|------|----------------------------------------------------------------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |       |      |                                                                                        |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC9        | K1    | S3   | Operative Jake Pope - carrying out general labour duties around site. Not wearing PPE. | 1202    | 1232     | 16.0              | 16.0          | 16.0        | 480               | 200       | 1.0        | 0.001                 | <0.01                     |
| FC10       | JS16  | S4   | Operative Jake Pope - carrying out general labour duties around site. Not wearing PPE. | 1203    | 1233     | 16.0              | 16.0          | 16.0        | 480               | 200       | 0.5        | 0.001                 | <0.01                     |
| FC11       | IL2   | S2   | 90 Rose Green Building Site - see plan                                                 | 1235    | 1305     | 16.0              | 16.0          | 16.0        | 480               | 200       | 1.5        | 0.001                 | <0.01                     |
| FC12       | ENV32 | S3   | 90 Rose Green Building Site - see plan                                                 | 1235    | 1305     | 16.0              | 16.0          | 16.0        | 480               | 200       | 1.0        | 0.001                 | <0.01                     |
|            |       |      |                                                                                        |         |          |                   |               |             |                   |           |            |                       |                           |
|            |       |      |                                                                                        |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: PLM 1

Stage Micrometer: WSM 13

Tally Counter: 2/US

Barometer: BTC 26

Thermometer: BTC 26

Flow Meter: FM 22

### Environment:

Temperature (°C): 20

Pressure (mb): 1016

Correction Factor (F): -

Diam. of dust deposit (D) (mm): 22.5

Test Slide (5 bands): Yes/No

W/B Grate diameter (µm): 100

### Blank Filter

Head: S4

Graticules: -

Fibres: -

### Place of Analysis:

Lab

On Site

Mod Lab RE61WPU

### Comments

Background air testing to ascertain fibre concentration in air is less than 0.01 fibres/ml. Results satisfactory.

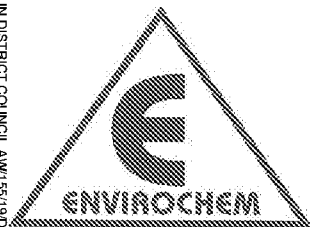
SIGNATURE:

(on behalf of Envirochem)

ENVIROCHEM/

PRINT NAME: Jon Prichard

NOV06



# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens, Broadcut, Fareham  
Hampshire. PO16 8SS

## Fibre Counting Report



Wilson Designer Homes Ltd.

CLIENT:

SITE ADDRESS: 90 Rose Green, Bognor Regis, PO21 3EQ

Our Ref: J123358 FC12

Your Ref: -

SAMPLING PROTOCOL: Personal

SAMPLED BY: Jon Prichard

ANALYSED BY (if different): -

DATE OF SAMPLING: 19/07/2017

DATE OF ANALYSIS (if different): -

| Filter No. | Pump | Head | Location                                                                               | Time on | Time off | Flow (litres/min) |               |             | Volume (V) litres | Grats (n) | Fibres (N) | Calculation fibres/ml | Reported result fibres/ml |
|------------|------|------|----------------------------------------------------------------------------------------|---------|----------|-------------------|---------------|-------------|-------------------|-----------|------------|-----------------------|---------------------------|
|            |      |      |                                                                                        |         |          | Flow (start)      | Flow (finish) | Flow (used) |                   |           |            |                       |                           |
| FC1        | AP13 | S1   | Operative Jake Pope - carrying out general labour duties around site. Not wearing PPE. | 0903    | 0933     | 2.0               | 2.0           | 2.0         | 60                | 200       | 0.5        | 0.002                 | <0.08                     |
| FC7        | AP13 | S1   | Operative Jake Pope - carrying out general labour duties around site. Not wearing PPE. | 1200    | 1230     | 2.0               | 2.0           | 2.0         | 60                | 200       | 1.0        | 0.004                 | <0.08                     |
|            |      |      |                                                                                        | 1235    |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                                                                                        |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                                                                                        |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                                                                                        |         |          |                   |               |             |                   |           |            |                       |                           |
|            |      |      |                                                                                        |         |          |                   |               |             |                   |           |            |                       |                           |

1. Unless otherwise stated, the detection limit is 0.01 fibres/ml.

3. Comments, observations and opinions are outside the scope of UKAS accreditation.

5. For clearance sampling, this report must be read in conjunction with the certificate of reoccupation.

2. Samples collected by the client are evaluated using information provided by the client.

4. Fibres were counted on membrane filter(s) in accordance with the HSE Guidance Note HSG 248.

### Equipment Numbers:

Microscope: PLM 1

Stage Micrometer: WSM 13

Tally Counter: 2/US

Barometer: BTC 26

Thermometer: BTC 26

Flow Meter: FM 5

### Environment:

Temperature (°C): 20

Pressure (mb): 1016

Correction Factor (F): -

Diam. of dust deposit (D) (mm): 22.5

Test Slide (5 bands): Yes/No

W/B Grate diameter (µm): 100

### Blank Filter

Head: S4

Graticules: -

Fibres: -

### Place of Analysis:

Lab

On Site

Mod Lab RE61WPU

Comments: Personal air testing carried out to ascertain concentration of fibres in air.

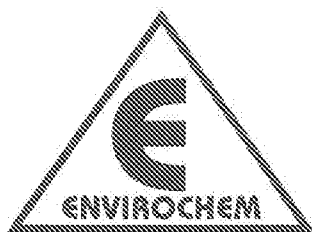
SIGNATURE:

(on behalf of Envirochem)

ENVIROCHEM

PRINT NAME: Jon Prichard

7/NOV06



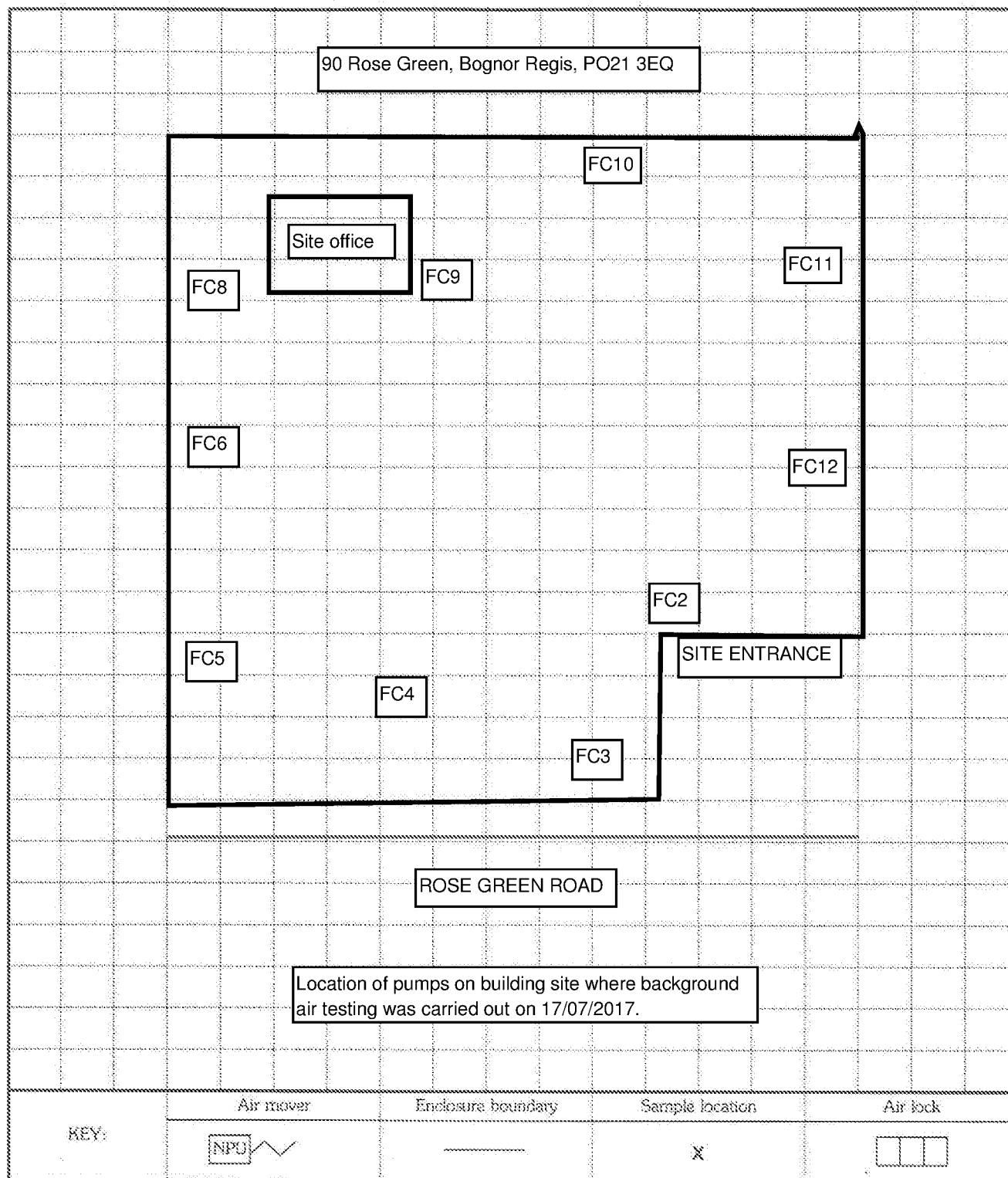
# ENVIROCHEM

Analytical Laboratories Ltd

12 The Gardens  
Broadcut, Fareham  
Hampshire, PO16 8SS

Ref No: J123358 FC12

## Enclosure details (Schematic Representation)



Full Name and Signature:

Date:

Time:

|                              |  |            |   |
|------------------------------|--|------------|---|
| Analyst: Jon Prichard        |  | 19/07/2017 | - |
| Contractor's Representative: |  | 19/07/2017 |   |

# Concept Life Sciences

## Certificate of Analysis

**Report Number:** 669103-1

**Date of Report:** 25-Jul-2017

**Customer:** OPUS International Consultants (UK) Ltd.

Modulus House  
Salterns Lane  
Fareham  
Hampshire  
PO16 0QS

**Customer Contact:** Mr Chris Summers

**Customer Job Reference:** E-E1644

**Customer Purchase Order:** POFA21227

**Customer Site Reference:** Rose Green Road

**Date Job Received at Concept:** 19-Jul-2017

**Date Analysis Started:** 19-Jul-2017

**Date Analysis Completed:** 25-Jul-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

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

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept SOPs

All results have been reviewed in accordance with Section 25 of the Concept, Analytical Quality Quality Manual



Report checked  
and authorised by :  
Bianca Prince  
Customer Service Manager

Issued by :  
Bianca Prince  
Customer Service Manager





|      |     |       |      |
|------|-----|-------|------|
| M105 | 0.1 | mg/kg | 0.5  |
| M105 | 0.1 | mg/kg | 0.2  |
| M105 | 0.1 | mg/kg | 0.2  |
| M105 | 0.1 | mg/kg | 0.2  |
| M105 | 0.1 | mg/kg | 0.3  |
| M105 | 0.1 | mg/kg | 0.2  |
| M105 | 0.1 | mg/kg | <0.1 |
| M105 | 0.1 | mg/kg | <0.1 |
| M105 | 0.1 | mg/kg | <0.1 |
| M105 | 0.1 | mg/kg | 2.2  |

### Index to symbols used in 669103-1

| Value | Description                                                                                                                                                           |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M40   | Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.                                                          |
| AR    | As Received                                                                                                                                                           |
| A40   | Assisted dried < 40C                                                                                                                                                  |
| M105  | Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C |
| N.D.  | Not Detected                                                                                                                                                          |
| 13    | Results have been blank corrected.                                                                                                                                    |
| S     | Analysis was subcontracted                                                                                                                                            |
| M     | Analysis is MCERTS accredited                                                                                                                                         |
| U     | Analysis is UKAS accredited                                                                                                                                           |
| N     | Analysis is not UKAS accredited                                                                                                                                       |

### Notes

|                                             |
|---------------------------------------------|
| Asbestos was subcontracted to REC Asbestos. |
|---------------------------------------------|

## Notes

Asbestos was subcontracted to REC Asbestos.

## Creditation Summary

Produced by Concept Life Sciences, Hadfield House, Hadfield Street, Cornbrook, Manchester, M16 9FE

| Determinand               | Method | Test Sample | LOD | Units | Symbol | Concept References |
|---------------------------|--------|-------------|-----|-------|--------|--------------------|
| Moisture @105C            | T162   | AR          | 0.1 | %     | N      | 002                |
| Retained on 10mm sieve    | T2     | M40         | 0.1 | %     | N      | 002                |
| Dichlorodifluoromethane   | T209   | M105        | 50  | µg/kg | M      | 002                |
| Chloromethane             | T209   | M105        | 50  | µg/kg | U      | 002                |
| Vinyl chloride            | T209   | M105        | 50  | µg/kg | M      | 002                |
| Bromomethane              | T209   | M105        | 50  | µg/kg | U      | 002                |
| Chloroethane              | T209   | M105        | 50  | µg/kg | M      | 002                |
| Trichlorofluoromethane    | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1-Dichloroethylene      | T209   | M105        | 50  | µg/kg | M      | 002                |
| Dichloromethane           | T209   | M105        | 50  | µg/kg | U      | 002                |
| Trans-1,2-Dichloroethene  | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1-Dichloroethane        | T209   | M105        | 50  | µg/kg | M      | 002                |
| Cis-1,2-Dichloroethylene  | T209   | M105        | 50  | µg/kg | M      | 002                |
| 2,2-Dichloropropane       | T209   | M105        | 50  | µg/kg | U      | 002                |
| Chloroform                | T209   | M105        | 50  | µg/kg | M      | 002                |
| Bromochloromethane        | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1,1-Trichloroethane     | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1-Dichloropropene       | T209   | M105        | 50  | µg/kg | M      | 002                |
| Carbon tetrachloride      | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,2-Dichloroethane        | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,2-Dichloropropane       | T209   | M105        | 50  | µg/kg | M      | 002                |
| Trichloroethene           | T209   | M105        | 50  | µg/kg | M      | 002                |
| Bromodichloromethane      | T209   | M105        | 50  | µg/kg | M      | 002                |
| Dibromomethane            | T209   | M105        | 50  | µg/kg | M      | 002                |
| Cis-1,3-Dichloropropene   | T209   | M105        | 50  | µg/kg | M      | 002                |
| Trans-1,3-Dichloropropene | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1,2-Trichloroethane     | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,3-Dichloropropane       | T209   | M105        | 50  | µg/kg | M      | 002                |
| Tetrachloroethene         | T209   | M105        | 50  | µg/kg | M      | 002                |
| Chlorodibromomethane      | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,2-dibromoethane         | T209   | M105        | 50  | µg/kg | M      | 002                |
| Chlorobenzene             | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1,1,2-Tetrachloroethane | T209   | M105        | 50  | µg/kg | M      | 002                |
| EthylBenzene              | T209   | M105        | 10  | µg/kg | M      | 002                |
| M/P Xylene                | T209   | M105        | 10  | µg/kg | M      | 002                |
| Styrene                   | T209   | M105        | 50  | µg/kg | U      | 002                |
| Bromoform                 | T209   | M105        | 50  | µg/kg | M      | 002                |
| Isopropyl benzene         | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,1,2,2-Tetrachloroethane | T209   | M105        | 50  | µg/kg | U      | 002                |
| 1,2,3-Trichloropropane    | T209   | M105        | 50  | µg/kg | U      | 002                |
| n-Propylbenzene           | T209   | M105        | 50  | µg/kg | M      | 002                |
| Bromobenzene              | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,3,5-Trimethylbenzene    | T209   | M105        | 50  | µg/kg | M      | 002                |
| T-Butylbenzene            | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,2,4-Trimethylbenzene    | T209   | M105        | 50  | µg/kg | M      | 002                |
| S-Butylbenzene            | T209   | M105        | 50  | µg/kg | M      | 002                |
| p-Isopropyltoluene        | T209   | M105        | 50  | µg/kg | M      | 002                |
| 2-Chlorotoluene           | T209   | M105        | 50  | µg/kg | U      | 002                |
| 4-Chlorotoluene           | T209   | M105        | 50  | µg/kg | U      | 002                |
| 1,3-Dichlorobenzene       | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,4-Dichlorobenzene       | T209   | M105        | 50  | µg/kg | M      | 002                |
| 1,2-Dichlorobenzene       | T209   | M105        | 50  | µg/kg | M      | 002                |
| Naphthalene               | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Acenaphthylene            | T207   | M105        | 0.1 | mg/kg | U      | 002                |
| Acenaphthene              | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Fluorene                  | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Phenanthrene              | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Anthracene                | T207   | M105        | 0.1 | mg/kg | U      | 002                |
| Fluoranthene              | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Pyrene                    | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Benzo(a)Anthracene        | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Chrysene                  | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Benzo(b)fluoranthene      | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Benzo(k)fluoranthene      | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Benzo(a)Pyrene            | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Indeno(123-cd)Pyrene      | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Dibenzo(ah)Anthracene     | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| Benzo(ghi)Perylene        | T207   | M105        | 0.1 | mg/kg | M      | 002                |
| PAH(total)                | T207   | M105        | 0.1 | mg/kg | U      | 002                |
| Asbestos ID               | T27    | AR          |     |       | SU     | 002                |

| Determinand             | Method | Test Sample | LOD   | Units | Symbol | Concept References |
|-------------------------|--------|-------------|-------|-------|--------|--------------------|
| Soil Organic Matter     | T287   | A40         | 0.1   | %     | N      | 002                |
| Benzene                 | T209   | M105        | 10    | µg/kg | M      | 002                |
| Toluene                 | T209   | M105        | 10    | µg/kg | M      | 002                |
| O Xylene                | T209   | M105        | 10    | µg/kg | M      | 002                |
| Methyl tert-Butyl Ether | T209   | M105        | 10    | µg/kg | M      | 002                |
| TPH (C5-C6 aliphatic)   | T209   | M105        | 0.100 | mg/kg | N      | 002                |
| TPH (C6-C8 aliphatic)   | T209   | M105        | 0.10  | mg/kg | N      | 002                |
| TPH (C8-C10 aliphatic)  | T209   | M105        | 0.10  | mg/kg | N      | 002                |
| TPH (C10-C12 aliphatic) | T909   | M105        | 1     | mg/kg | M      | 002                |
| TPH (C12-C16 aliphatic) | T909   | M105        | 1     | mg/kg | M      | 002                |
| TPH (C16-C21 aliphatic) | T909   | M105        | 1     | mg/kg | M      | 002                |
| TPH (C21-C35 aliphatic) | T909   | M105        | 2     | mg/kg | M      | 002                |
| TPH (C6-C7 aromatic)    | T209   | M105        | 0.10  | mg/kg | N      | 002                |
| TPH (C7-C8 aromatic)    | T209   | M105        | 0.10  | mg/kg | N      | 002                |
| TPH (C8-C10 aromatic)   | T209   | M105        | 0.10  | mg/kg | N      | 002                |
| TPH (C10-C12 aromatic)  | T909   | M105        | 2     | mg/kg | M      | 002                |
| TPH (C12-C16 aromatic)  | T909   | M105        | 1     | mg/kg | M      | 002                |
| TPH (C16-C21 aromatic)  | T909   | M105        | 1     | mg/kg | M      | 002                |
| TPH (C21-C35 aromatic)  | T909   | M105        | 1     | mg/kg | M      | 002                |



# Concept Life Sciences

## Certificate of Analysis

Hadfield House  
Hadfield Street  
Cornbrook  
Manchester  
M16 9FE

**Report Number:** 669105-1

**Date of Report:** 21-Jul-2017

**Customer:** OPUS International Consultants (UK) Ltd.

Modulus House  
Salterns Lane  
Fareham  
Hampshire  
PO16 0QS

**Customer Contact:** Mr Chris Summers

**Customer Job Reference:** E-E1644

**Customer Purchase Order:** POFA21228

**Customer Site Reference:** Rose Green Road

**Date Job Received at Concept:** 19-Jul-2017

**Date Analysis Started:** 19-Jul-2017

**Date Analysis Completed:** 21-Jul-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

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

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept SOPs

All results have been reviewed in accordance with Section 25 of the Concept, Analytical Quality Quality Manual



Report checked  
and authorised by :  
Bianca Prince  
Customer Service Manager

Issued by :  
Bianca Prince  
Customer Service Manager

|                                      |               |                    |            |                         |                    |                    |      |
|--------------------------------------|---------------|--------------------|------------|-------------------------|--------------------|--------------------|------|
| <b>Concept Reference:</b> 669105     |               |                    |            |                         |                    |                    |      |
| <b>Project Site:</b> Rose Green Road |               |                    |            |                         |                    |                    |      |
| <b>Customer Reference:</b> E-E1644   |               |                    |            |                         |                    |                    |      |
| <b>Soil</b>                          |               |                    |            | <b>Analysed as Soil</b> |                    |                    |      |
| <b>MCERTS Preparation</b>            |               |                    |            |                         |                    |                    |      |
| <b>Concept Reference</b>             |               |                    |            | <b>669105 001</b>       | <b>669105 002</b>  | <b>669105 003</b>  |      |
| <b>Customer Sample Reference</b>     |               |                    |            | <b>VS1</b>              | <b>VS2</b>         | <b>VS3</b>         |      |
| <b>Date Sampled</b>                  |               |                    |            | <b>17-JUL-2017</b>      | <b>17-JUL-2017</b> | <b>17-JUL-2017</b> |      |
| <b>Matrix Class</b>                  |               |                    |            | <b>Clay</b>             | <b>Clay</b>        | <b>Clay</b>        |      |
|                                      |               |                    |            |                         |                    |                    |      |
| <b>Determinand</b>                   | <b>Method</b> | <b>Test Sample</b> | <b>LOD</b> | <b>Units</b>            |                    |                    |      |
| Moisture @105C                       | T162          | AR                 | 0.1        | %                       | 14                 | 14                 | 14   |
| Retained on 10mm sieve               | T2            | M40                | 0.1        | %                       | <0.1               | <0.1               | <0.1 |

|                                      |               |                    |            |                  |             |             |      |
|--------------------------------------|---------------|--------------------|------------|------------------|-------------|-------------|------|
| <b>Concept Reference:</b> 669105     |               |                    |            |                  |             |             |      |
| <b>Project Site:</b> Rose Green Road |               |                    |            |                  |             |             |      |
| <b>Customer Reference:</b> E-E1644   |               |                    |            |                  |             |             |      |
| Soil                                 |               |                    |            | Analysed as Soil |             |             |      |
| Miscellaneous                        |               |                    |            |                  |             |             |      |
| <b>Concept Reference</b>             |               |                    |            | 669105 001       | 669105 002  | 669105 003  |      |
| <b>Customer Sample Reference</b>     |               |                    |            | VS1              | VS2         | VS3         |      |
| <b>Date Sampled</b>                  |               |                    |            | 17-JUL-2017      | 17-JUL-2017 | 17-JUL-2017 |      |
| <b>Matrix Class</b>                  |               |                    |            | Clay             | Clay        | Clay        |      |
| <b>Determinand</b>                   | <b>Method</b> | <b>Test Sample</b> | <b>LOD</b> | <b>Units</b>     |             |             |      |
| Asbestos ID                          | T27           | AR                 |            |                  | N.D.        | N.D.        | N.D. |
| Lead                                 | T6            | M40                | 1          | mg/kg            | 57          | 48          | 42   |

## Index to symbols used in 669105-1

| Value | Description                                                                                                  |
|-------|--------------------------------------------------------------------------------------------------------------|
| AR    | As Received                                                                                                  |
| M40   | Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis. |
| N.D.  | Not Detected                                                                                                 |
| S     | Analysis was subcontracted                                                                                   |
| M     | Analysis is MCERTS accredited                                                                                |
| U     | Analysis is UKAS accredited                                                                                  |
| N     | Analysis is not UKAS accredited                                                                              |

## Notes

Asbestos was subcontracted to REC Asbestos.

## Method Index

| Value | Description          |
|-------|----------------------|
| T27   | PLM                  |
| T6    | ICP/OES              |
| T162  | Grav (1 Dec) (105 C) |
| T2    | Grav                 |

## Accreditation Summary

| Determinand            | Method | Test Sample | LOD | Units | Symbol | Concept References |
|------------------------|--------|-------------|-----|-------|--------|--------------------|
| Moisture @105C         | T162   | AR          | 0.1 | %     | N      | 001-003            |
| Retained on 10mm sieve | T2     | M40         | 0.1 | %     | N      | 001-003            |
| Asbestos ID            | T27    | AR          |     |       | SU     | 001-003            |
| Lead                   | T6     | M40         | 1   | mg/kg | M      | 001-003            |

# Concept Life Sciences

## Certificate of Analysis

Hadfield House  
Hadfield Street  
Cornbrook  
Manchester  
M16 9FE

**Report Number:** 671546-1

**Date of Report:** 01-Aug-2017

**Customer:** OPUS International Consultants (UK) Ltd.

Modulus House  
Salterns Lane  
Fareham  
Hampshire  
PO16 0QS

**Customer Contact:** Mr Chris Summers

**Customer Job Reference:** EE1644

**Customer Purchase Order:** POFA 21238

**Customer Site Reference:** 90 Rose Green Road

**Date Job Received at Concept:** 28-Jul-2017

**Date Analysis Started:** 28-Jul-2017

**Date Analysis Completed:** 01-Aug-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

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

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept SOPs

All results have been reviewed in accordance with Section 25 of the Concept, Analytical Quality Quality Manual



Report checked  
and authorised by :  
Bianca Prince  
Customer Service Manager

Issued by :  
Bianca Prince  
Customer Service Manager

|                                                                                                                  |               |                    |            |              |             |             |             |             |
|------------------------------------------------------------------------------------------------------------------|---------------|--------------------|------------|--------------|-------------|-------------|-------------|-------------|
| <b>Concept Reference:</b> 671546<br><b>Project Site:</b> 90 Rose Green Road<br><b>Customer Reference:</b> EE1644 |               |                    |            |              |             |             |             |             |
| Soil<br>Analysed as Soil<br><b>MCERTS Preparation</b>                                                            |               |                    |            |              |             |             |             |             |
| <b>Concept Reference</b>                                                                                         |               |                    |            |              | 671546 001  | 671546 002  | 671546 003  | 671546 004  |
| <b>Customer Sample Reference</b>                                                                                 |               |                    |            |              | VS4         | VS5         | VS6         | VS7         |
| <b>Date Sampled</b>                                                                                              |               |                    |            |              | 25-JUL-2017 | 25-JUL-2017 | 25-JUL-2017 | 25-JUL-2017 |
| <b>Matrix Class</b>                                                                                              |               |                    |            |              | Clay        | Clay        | Clay        | Clay        |
| <b>Determinand</b>                                                                                               | <b>Method</b> | <b>Test Sample</b> | <b>LOD</b> | <b>Units</b> |             |             |             |             |
| Retained on 10mm sieve                                                                                           | T2            | M40                | 0.1        | %            | <0.1        | <0.1        | <0.1        | <0.1        |
| Moisture @105C                                                                                                   | T162          | AR                 | 0.1        | %            | 18          | 16          | 17          | 15          |

|                                                                                                                  |               |                    |            |              |             |             |             |             |
|------------------------------------------------------------------------------------------------------------------|---------------|--------------------|------------|--------------|-------------|-------------|-------------|-------------|
| <b>Concept Reference:</b> 671546<br><b>Project Site:</b> 90 Rose Green Road<br><b>Customer Reference:</b> EE1644 |               |                    |            |              |             |             |             |             |
| Soil<br>Analysed as Soil<br><b>Miscellaneous</b>                                                                 |               |                    |            |              |             |             |             |             |
| <b>Concept Reference</b>                                                                                         |               |                    |            |              | 671546 001  | 671546 002  | 671546 003  | 671546 004  |
| <b>Customer Sample Reference</b>                                                                                 |               |                    |            |              | VS4         | VS5         | VS6         | VS7         |
| <b>Date Sampled</b>                                                                                              |               |                    |            |              | 25-JUL-2017 | 25-JUL-2017 | 25-JUL-2017 | 25-JUL-2017 |
| <b>Matrix Class</b>                                                                                              |               |                    |            |              | Clay        | Clay        | Clay        | Clay        |
| <b>Determinand</b>                                                                                               | <b>Method</b> | <b>Test Sample</b> | <b>LOD</b> | <b>Units</b> |             |             |             |             |
| Asbestos ID                                                                                                      | T27           | AR                 |            |              | N.D.        | N.D.        | N.D.        | N.D.        |
| Lead                                                                                                             | T6            | M40                | 1          | mg/kg        | 14          | 17          | 15          | 100         |

## Index to symbols used in 671546-1

| Value | Description                                                                                                  |
|-------|--------------------------------------------------------------------------------------------------------------|
| AR    | As Received                                                                                                  |
| M40   | Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis. |
| N.D.  | Not Detected                                                                                                 |
| S     | Analysis was subcontracted                                                                                   |
| M     | Analysis is MCERTS accredited                                                                                |
| U     | Analysis is UKAS accredited                                                                                  |
| N     | Analysis is not UKAS accredited                                                                              |

## Notes

Asbestos was subcontracted to REC Asbestos.

## Method Index

| Value | Description          |
|-------|----------------------|
| T27   | PLM                  |
| T2    | Grav                 |
| T6    | ICP/OES              |
| T162  | Grav (1 Dec) (105 C) |

## Accreditation Summary

| Determinand            | Method | Test Sample | LOD | Units | Symbol | Concept References |
|------------------------|--------|-------------|-----|-------|--------|--------------------|
| Moisture @105C         | T162   | AR          | 0.1 | %     | N      | 001-004            |
| Retained on 10mm sieve | T2     | M40         | 0.1 | %     | N      | 001-004            |
| Asbestos ID            | T27    | AR          |     |       | SU     | 001-004            |
| Lead                   | T6     | M40         | 1   | mg/kg | M      | 001-004            |

# Concept Life Sciences

## Certificate of Analysis

Hadfield House  
Hadfield Street  
Cornbrook  
Manchester  
M16 9FE

**Report Number:** 673272-1

**Date of Report:** 09-Aug-2017

**Customer:** OPUS International Consultants (UK) Ltd.

Modulus House  
Salterns Lane  
Fareham  
Hampshire  
PO16 0QS

**Customer Contact:** Mr Chris Summers

**Customer Job Reference:** E-E1644

**Customer Purchase Order:** FA 21256

**Customer Site Reference:** 90 Rose Green Rd

**Date Job Received at Concept:** 04-Aug-2017

**Date Analysis Started:** 04-Aug-2017

**Date Analysis Completed:** 08-Aug-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

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

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept Life Sciences SOPs

All results have been reviewed in accordance with Section 25 of the Concept Life Sciences, Analytical Services Quality Manual



Report checked  
and authorised by :  
Bianca Prince  
Customer Service Manager

Issued by :  
Bianca Prince  
Customer Service Manager



|      |                                 |
|------|---------------------------------|
| AR   | As Received                     |
| N.D. | Not Detected                    |
| S    | Analysis was subcontracted      |
| M    | Analysis is MCERTS accredited   |
| U    | Analysis is UKAS accredited     |
| N    | Analysis is not UKAS accredited |

## Notes

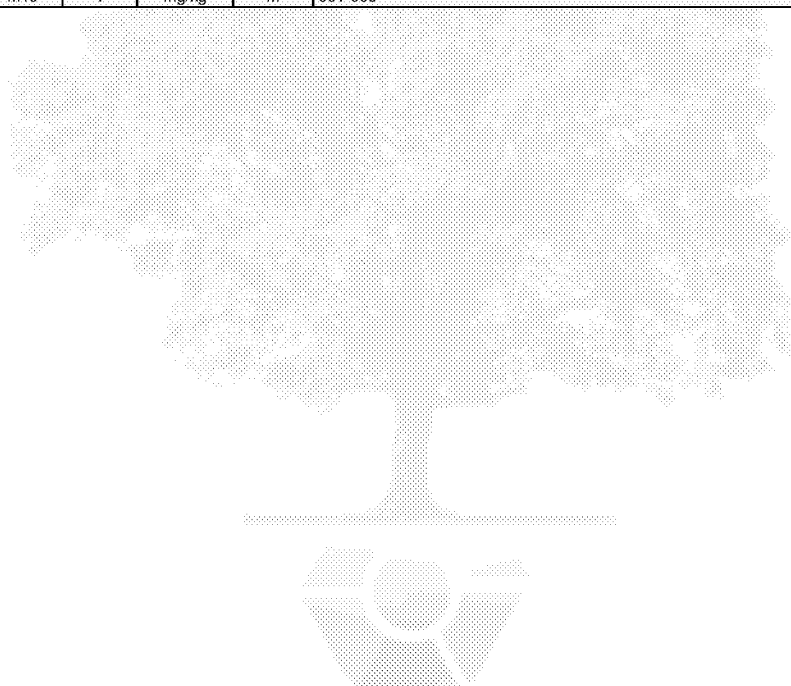
|                                             |
|---------------------------------------------|
| Asbestos was subcontracted to REC Asbestos. |
|---------------------------------------------|

## Method Index

| Value | Description          |
|-------|----------------------|
| T162  | Grav (1 Dec) (105 C) |
| T2    | Grav                 |
| T6    | ICP/OES              |
| T27   | PLM                  |

## Accreditation Summary

| Determinand            | Method | Test Sample | LOD | Units | Symbol | Concept References |
|------------------------|--------|-------------|-----|-------|--------|--------------------|
| Moisture @105C         | T162   | AR          | 0.1 | %     | N      | 001-009            |
| Retained on 10mm sieve | T2     | M40         | 0.1 | %     | N      | 001-009            |
| Asbestos ID            | T27    | AR          |     |       | SU     | 001-009            |
| Lead                   | T6     | M40         | 1   | mg/kg | M      | 001-009            |





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

WSP Opus International Consultants (UK) Limited  
Vivian House  
Vivian Avenue  
Nottingham  
Nottinghamshire  
NG5 1AF

Attention: Chris Summers

## CERTIFICATE OF ANALYSIS

Date of report Generation: 04 March 2019  
Customer: H\_OPUS\_NTT  
Sample Delivery Group (SDG): 190222-32  
Your Reference: 62251557  
Location: 90 Rose Green Road Plots 1 to 4  
Report No: 495073

We received 4 samples on Friday February 22, 2019 and 4 of these samples were scheduled for analysis which was completed on Monday March 04, 2019. 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.

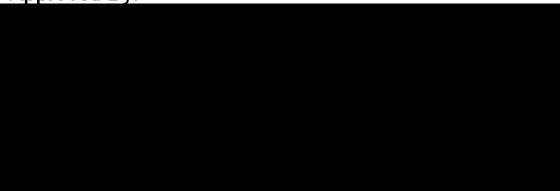
Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

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



ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

Version: 2.1

Version Issued: 04/03/2019



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-32

Client Reference: 62251557

Report Number: 495073

Location: 90 Rose Green Road Plots

Order Number: 20087077

Superseded Report:

## Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m)   | Sampled Date |
|------------------|----------------------|----------|-------------|--------------|
| 19411769         | V1 Topsoil           |          | 0.00 - 0.20 | 20/02/2019   |
| 19411775         | V2 Topsoil           |          | 0.00 - 0.30 | 20/02/2019   |
| 19411784         | V3 Topsoil           |          | 0.00 - 0.30 | 20/02/2019   |
| 19411790         | V4 Topsoil           |          | 0.00 - 0.30 | 20/02/2019   |

### Maximum Sample/Coolbox Temperature (°C) :

4.6

#### ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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

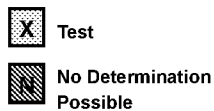


# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-32 Client Reference: 62251557 Report Number: 495073  
Location: 90 Rose Green Road Plots Order Number: 20087077 Superseded Report:

## Results Legend



## 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

Asbestos ID in Solid Samples

All

NDPs: 0  
Tests: 4

X

X

X

X

X

EPH CWG (Aliphatic) GC (S)

All

NDPs: 0  
Tests: 4

X

X

X

X

EPH CWG (Aromatic) GC (S)

All

NDPs: 0  
Tests: 4

X

X

X

X

GRO by GC-FID (S)

All

NDPs: 0  
Tests: 4

X

X

X

X

Hexavalent Chromium (s)

All

NDPs: 0  
Tests: 4

X

X

X

X

Metals in solid samples by OES

All

NDPs: 0  
Tests: 4

X

X

X

X

PAH by GC/MS

All

NDPs: 0  
Tests: 4

X

X

X

X

pH

All

NDPs: 0  
Tests: 4

X

X

X

X

Sample description

All

NDPs: 0  
Tests: 4

X

X

X

X

Total Organic Carbon

All

NDPs: 0  
Tests: 4

X

X

X

X

TPH CWG GC (S)

All

NDPs: 0  
Tests: 4

X

X

X

X

VOC MS (S)

All

NDPs: 0  
Tests: 4

X

X

X

X



## CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-32

Client Reference: 62251557

Report Number: 495073

Location: 90 Rose Green Road Plots 1

Order Number: 20087077

Superseded Report:

### Sample Descriptions

#### Grain Sizes

|           |          |      |                 |        |             |        |            |             |       |
|-----------|----------|------|-----------------|--------|-------------|--------|------------|-------------|-------|
| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|-----------|----------|------|-----------------|--------|-------------|--------|------------|-------------|-------|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m)   | Colour     | Description     | Inclusions | Inclusions 2 |
|------------------|----------------------|-------------|------------|-----------------|------------|--------------|
| 19411769         | V1 Topsoil           | 0.00 - 0.20 | Black      | Sandy Clay Loam | Stones     | Vegetation   |
| 19411775         | V2 Topsoil           | 0.00 - 0.30 | Dark Brown | Silty Clay Loam | Stones     | Vegetation   |
| 19411784         | V3 Topsoil           | 0.00 - 0.30 | Black      | Sandy Silt Loam | Stones     | Vegetation   |
| 19411790         | V4 Topsoil           | 0.00 - 0.30 | Dark Brown | Sandy Loam      | 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: 190222-32 Client Reference: 62251557 Report Number: 495073  
 Location: 90 Rose Green Road Plots 1 Order Number: 20087077 Superseded Report:

## Asbestos Identification - Solid Samples

### Reliability 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<br>(Brown)<br>Asbestos | Chrysotile<br>(White)<br>Asbestos | Crocidolite<br>(Blue) Asbestos | Fibrous<br>Actinolite | Fibrous<br>Anthophyllite | Fibrous<br>Tremolite | Non-Asbestos<br>Fibre |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------|----------------|----------|--------------------------------|-----------------------------------|--------------------------------|-----------------------|--------------------------|----------------------|-----------------------|
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V1 Topsoil<br>0.00 - 0.20<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:55:00<br>190222-32<br>19411769<br>TM048 | 28/02/2019       | James Richards | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V2 Topsoil<br>0.00 - 0.30<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:55:00<br>190222-32<br>19411775<br>TM048 | 28/02/2019       | Lucy Caroe     | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Detected              |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V3 Topsoil<br>0.00 - 0.30<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:55:00<br>190222-32<br>19411784<br>TM048 | 28/02/2019       | James Richards | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V4 Topsoil<br>0.00 - 0.30<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:55:00<br>190222-32<br>19411790<br>TM048 | 28/02/2019       | Lucy Caroe     | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Detected              |



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-32 Client Reference: 62251557 Report Number: 495073  
 Location: 90 Rose Green Road Plots 1 Order Number: 20087077 Superseded Report:

## Table of Results - Appendix

| Method No | Reference                                                                                        | Description                                                                                           |
|-----------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| PM001     |                                                                                                  | Preparation of Samples for Metals Analysis                                                            |
| PM024     | Modified BS 1377                                                                                 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| 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)                       |
| 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                                         |
| TM151     | Method 3500D, AWWA/APHA, 20th Ed., 1999                                                          | Determination of Hexavalent Chromium using Kone analyser                                              |
| TM173     | Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria | Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID                      |
| TM181     | US EPA Method 6010B                                                                              | Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES                                      |
| TM218     | Shaker extraction - EPA method 3546.                                                             | The determination of PAH in soil samples by GC-MS                                                     |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-32

Client Reference: 62251557

Report Number: 495073

Location: 90 Rose Green Road Plots

Order Number: 20087077

Superseded Report:

## Test Completion Dates

| Lab Sample No(s)               | 19411769       | 19411775       | 19411784       | 19411790       |
|--------------------------------|----------------|----------------|----------------|----------------|
| Customer Sample Ref.           | V1 Topsoil     | V2 Topsoil     | V3 Topsoil     | V4 Topsoil     |
| AGS Ref.                       |                |                |                |                |
| Depth                          | 0.00 - 0.20    | 0.00 - 0.30    | 0.00 - 0.30    | 0.00 - 0.30    |
| Type                           | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Asbestos ID in Solid Samples   | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    |
| EPH CWG (Aliphatic) GC (S)     | 01-Mar-2019    | 01-Mar-2019    | 01-Mar-2019    | 01-Mar-2019    |
| EPH CWG (Aromatic) GC (S)      | 01-Mar-2019    | 01-Mar-2019    | 01-Mar-2019    | 01-Mar-2019    |
| GRO by GC-FID (S)              | 02-Mar-2019    | 27-Feb-2019    | 27-Feb-2019    | 01-Mar-2019    |
| Hexavalent Chromium (s)        | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    |
| Metals in solid samples by OES | 27-Feb-2019    | 27-Feb-2019    | 27-Feb-2019    | 27-Feb-2019    |
| PAH by GCMS                    | 04-Mar-2019    | 04-Mar-2019    | 04-Mar-2019    | 04-Mar-2019    |
| pH                             | 27-Feb-2019    | 27-Feb-2019    | 27-Feb-2019    | 27-Feb-2019    |
| Sample description             | 22-Feb-2019    | 22-Feb-2019    | 22-Feb-2019    | 22-Feb-2019    |
| Total Organic Carbon           | 28-Feb-2019    | 01-Mar-2019    | 28-Feb-2019    | 01-Mar-2019    |
| TPH CWG GC (S)                 | 02-Mar-2019    | 01-Mar-2019    | 01-Mar-2019    | 01-Mar-2019    |
| VOC MS (S)                     | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    |



# CERTIFICATE OF ANALYSIS

|                  |                                 |                          |          |                           |        |
|------------------|---------------------------------|--------------------------|----------|---------------------------|--------|
| <b>SDG:</b>      | 190222-32                       | <b>Client Reference:</b> | 62251557 | <b>Report Number:</b>     | 495073 |
| <b>Location:</b> | 30 Rose Green Road Plots 1 to 4 | <b>Order Number:</b>     | 20087077 | <b>Superseded Report:</b> |        |

## 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 NH<sub>4</sub> by the BRE method, VOC TICs and SVOC TICs.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. 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.

4. 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.

5. 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.

6. 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 (2005), 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.

7. 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.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

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

13. **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.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

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

18. 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.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

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

## General

21. 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.

22. 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.

23. 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.

24. **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.

## 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                                                       |
| 5 | Sampled on date not provided                                                |
| 6 | Sample holding time exceeded in laboratory                                  |
| 7 | Sample holding time exceeded due to late arrival of instructions or samples |

## Asbestos

### Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials 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 (2005).

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, based on HSG 248 (2005).

| 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.

**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.**



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

Website: [www.alsenvironmental.co.uk](http://www.alsenvironmental.co.uk)

WSP Opus International Consultants (UK) Limited  
Vivian House  
Vivian Avenue  
Nottingham  
Nottinghamshire  
NG5 1AF

Attention: Chris Summers

## CERTIFICATE OF ANALYSIS

Date of report Generation: 04 March 2019  
Customer: H\_OPUS\_NTT  
Sample Delivery Group (SDG): 190222-33  
Your Reference: 62251557  
Location: 90 Rose Green Road Plot 5  
Report No: 495166

We received 3 samples on Friday February 22, 2019 and 3 of these samples were scheduled for analysis which was completed on Monday March 04, 2019. 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 Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

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





## CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-33 Client Reference: 62251557 Report Number: 495166  
Location: 90 Rose Green Road Plot 5 Order Number: 20087078 Superseded Report:

### Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref | AGS Ref | Depth (m)   | Sampled Date |
|------------------|---------------------|---------|-------------|--------------|
| 19411837         | V5 Topsoil          |         | 0.00 - 0.20 | 20/02/2019   |
| 19411846         | V6 Topsoil          |         | 0.00 - 0.20 | 20/02/2019   |
| 19411851         | V7 Topsoil          |         | 0.00 - 0.20 | 20/02/2019   |

#### Maximum Sample/Coolbox Temperature (°C) :

**4.6**

#### ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-33

Client Reference: 62251557

Report Number: 495166

Location: 90 Rose Green Road Plot 5

Order Number: 20087078

Superseded Report:

## 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

Asbestos ID in Solid Samples

All

NDPs: 0  
 Tests: 3

X

X

X

EPH CWG (Aliphatic) GC (S)

All

NDPs: 0  
 Tests: 3

X

X

X

EPH CWG (Aromatic) GC (S)

All

NDPs: 0  
 Tests: 3

X

X

X

GRO by GC-FID (S)

All

NDPs: 0  
 Tests: 3

X

X

X

Hexavalent Chromium (s)

All

NDPs: 0  
 Tests: 3

X

X

X

Metals in solid samples by OES

All

NDPs: 0  
 Tests: 3

X

X

X

PAH by GC/MS

All

NDPs: 0  
 Tests: 3

X

X

X

pH

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: 190222-33

Client Reference: 62251557

Report Number: 495166

Location: 90 Rose Green Road Plot 5

Order Number: 20087078

Superseded Report:

### Sample Descriptions

#### Grain Sizes

|           |          |      |                 |        |             |        |            |             |       |
|-----------|----------|------|-----------------|--------|-------------|--------|------------|-------------|-------|
| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|-----------|----------|------|-----------------|--------|-------------|--------|------------|-------------|-------|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m)   | Colour     | Description | Inclusions | Inclusions 2 |
|------------------|----------------------|-------------|------------|-------------|------------|--------------|
| 19411837         | V5 Topsoil           | 0.00 - 0.20 | Dark Brown | Sandy Loam  | Stones     | Vegetation   |
| 19411846         | V6 Topsoil           | 0.00 - 0.20 | Dark Brown | Sandy Loam  | Vegetation | Stones       |
| 19411851         | V7 Topsoil           | 0.00 - 0.20 | Dark Brown | Sandy Loam  | 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: 190222-33 Client Reference: 62251557 Report Number: 495166  
 Location: 90 Rose Green Road Plot 5 Order Number: 20087078 Superseded Report:

## Asbestos Identification - Solid Samples

### Reliability 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<br>(Brown)<br>Asbestos | Chrysotile<br>(White)<br>Asbestos | Crocidolite<br>(Blue) Asbestos | Fibrous<br>Actinolite | Fibrous<br>Anthophyllite | Fibrous<br>Tremolite | Non-Asbestos<br>Fibre |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|----------|--------------------------------|-----------------------------------|--------------------------------|-----------------------|--------------------------|----------------------|-----------------------|
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V5 Topsoil<br>0.00 - 0.20<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:58:00<br>190222-33<br>19411837<br>TM048 | 28/02/2019       | Lucy Caroe                   | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V6 Topsoil<br>0.00 - 0.20<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:58:00<br>190222-33<br>19411846<br>TM048 | 28/02/2019       | Barbara<br>Urbanek-Wals<br>h | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V7 Topsoil<br>0.00 - 0.20<br>SOLID<br>20/02/2019 00:00:00<br>22/02/2019 08:58:00<br>190222-33<br>19411851<br>TM048 | 28/02/2019       | James<br>Richards            | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-33 Client Reference: 62251557 Report Number: 495166  
Location: 90 Rose Green Road Plot 5 Order Number: 20087078 Superseded Report:

## Table of Results - Appendix

| Method No | Reference                                                                                        | Description                                                                                           |
|-----------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| PM001     |                                                                                                  | Preparation of Samples for Metals Analysis                                                            |
| PM024     | Modified BS 1377                                                                                 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| 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)                       |
| 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                                         |
| TM151     | Method 3500D, AWWA/APHA, 20th Ed., 1999                                                          | Determination of Hexavalent Chromium using Kone analyser                                              |
| TM173     | Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria | Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID                      |
| TM181     | US EPA Method 6010B                                                                              | Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES                                      |
| TM218     | Shaker extraction - EPA method 3546.                                                             | The determination of PAH in soil samples by GC-MS                                                     |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190222-33

Client Reference: 62251557

Report Number: 495166

Location: 90 Rose Green Road Plot 5

Order Number: 20087078

Superseded Report:

## Test Completion Dates

| Lab Sample No(s)               | 19411837       | 19411846       | 19411851       |
|--------------------------------|----------------|----------------|----------------|
| Customer Sample Ref.           | VE Topsoil     | VE Topsoil     | V7 Topsoil     |
| AGS Ref.                       |                |                |                |
| Depth                          | 0.00 - 0.20    | 0.00 - 0.20    | 0.00 - 0.20    |
| Type                           | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Asbestos ID in Solid Samples   | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    |
| EPH CWG (Aliphatic) GC (S)     | 01-Mar-2019    | 04-Mar-2019    | 04-Mar-2019    |
| EPH CWG (Aromatic) GC (S)      | 01-Mar-2019    | 04-Mar-2019    | 04-Mar-2019    |
| GRO by GC-FID (S)              | 27-Feb-2019    | 28-Feb-2019    | 02-Mar-2019    |
| Hexavalent Chromium (s)        | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    |
| Metals in solid samples by OES | 27-Feb-2019    | 27-Feb-2019    | 27-Feb-2019    |
| PAH by GCMS                    | 04-Mar-2019    | 04-Mar-2019    | 04-Mar-2019    |
| pH                             | 27-Feb-2019    | 27-Feb-2019    | 27-Feb-2019    |
| Sample description             | 22-Feb-2019    | 22-Feb-2019    | 22-Feb-2019    |
| Total Organic Carbon           | 28-Feb-2019    | 01-Mar-2019    | 28-Feb-2019    |
| TPH CWG GC (S)                 | 01-Mar-2019    | 04-Mar-2019    | 04-Mar-2019    |
| VOC MS (S)                     | 28-Feb-2019    | 28-Feb-2019    | 28-Feb-2019    |



# CERTIFICATE OF ANALYSIS

|           |                           |                   |          |                    |        |
|-----------|---------------------------|-------------------|----------|--------------------|--------|
| SDG:      | 190222-33                 | Client Reference: | 62251557 | Report Number:     | 495166 |
| Location: | 90 Rose Green Road Plot 5 | Order Number:     | 20087078 | Superseded Report: |        |

## 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 NH<sub>4</sub> by the BRE method, VOC TICs and SVOC TICs.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. 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.

4. 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.

5. 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.

6. 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 (2005), 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.

7. 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.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

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

13. **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.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

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

18. 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.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

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

## General

21. 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.

22. 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.

23. 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.

24. **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.

## 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                                                       |
| 5 | Sampled on date not provided                                                |
| 6 | Sample holding time exceeded in laboratory                                  |
| 7 | Sample holding time exceeded due to late arrival of instructions or samples |

## Asbestos

### Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials 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 (2005).

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, based on HSG 248 (2005).

| 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.

**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.**



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

WSP Opus International Consultants (UK) Limited  
Vivian House  
Vivian Avenue  
Nottingham  
Nottinghamshire  
NG5 1AF

Attention: Chris Summers

## CERTIFICATE OF ANALYSIS

**Date of report Generation:** 23 April 2019  
**Customer:** H\_OPUS\_NTT  
**Sample Delivery Group (SDG):** 190412-130  
**Your Reference:** 62251557  
**Location:** 90 Rose Green Road Plot 5  
**Report No:** 502005

We received 6 samples on Friday April 12, 2019 and 6 of these samples were scheduled for analysis which was completed on Tuesday April 23, 2019. 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 Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

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.

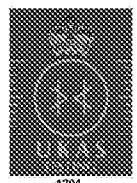
Incorrect sampling dates and/or sample information will affect the validity of results.

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

Approved By:

**Sonia McWhan**

Operations Manager





# CERTIFICATE OF ANALYSIS

Validated

SDG: 190412-130 Client Reference: 62251557 Report Number: 502005  
Location: 90 Rose Green Road Plot 5 Order Number: 20090411 Superseded Report:

## Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m)   | Sampled Date |
|------------------|----------------------|----------|-------------|--------------|
| 19778294         | VS100                |          | 0.00 - 0.00 | 05/04/2019   |
| 19778298         | VS101                |          | 0.00 - 0.00 | 05/04/2019   |
| 19778303         | VS102                |          | 0.00 - 0.00 | 05/04/2019   |
| 19778281         | V8 Topsoil           |          | 0.00 - 0.00 | 05/04/2019   |
| 19778285         | V9 Topsoil           |          | 0.00 - 0.00 | 05/04/2019   |
| 19778289         | V10 Topsoil          |          | 0.00 - 0.00 | 05/04/2019   |

### Maximum Sample/Coolbox Temperature (°C) :

6.6

#### ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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



## CERTIFICATE OF ANALYSIS

SDG: 190412-130

Client Reference: 62251557

Report Number: 502005

Location: 90 Rose Green Road Plot 5 Order Number: 20090411

Superseded Report:

## 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

Asbestos ID in Solid Samples

All

NDPs: 0  
Tests: 6

X

X

X

X

X

X

Boron Water Soluble

All

NDPs: 0  
Tests: 6

X

X

X

X

X

X

EPH CWG (Aliphatic) GC (S)

All

NDPs: 0  
Tests: 3

X

X

X

EPH CWG (Aromatic) GC (S)

All

NDPs: 0  
Tests: 3

X

X

X

GRO by GC-FID (S)

All

NDPs: 0  
Tests: 3

X

X

X

Hexavalent Chromium (s)

All

NDPs: 0  
Tests: 3

X

X

X

Metals in solid samples by OES

All

NDPs: 0  
Tests: 6

X

X

X

X

X

X

PAH by GCMS

All

NDPs: 0  
Tests: 3

X

X

X

pH

All

NDPs: 0  
Tests: 3

X

X

X

Sample description

All

NDPs: 0  
Tests: 6

X

X

X

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: 190412-130

Client Reference: 62251557

Report Number: 502005

Location: 90 Rose Green Road Plot 5

Order Number: 20090411

Superseded Report:

### Sample Descriptions

#### Grain Sizes

|           |          |      |                 |        |             |        |            |             |       |
|-----------|----------|------|-----------------|--------|-------------|--------|------------|-------------|-------|
| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|-----------|----------|------|-----------------|--------|-------------|--------|------------|-------------|-------|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m)   | Colour      | Description     | Inclusions | Inclusions 2 |
|------------------|----------------------|-------------|-------------|-----------------|------------|--------------|
| 19778281         | V8 Topsoil           | 0.00 - 0.00 | Dark Brown  | Loamy Sand      | Vegetation | Stones       |
| 19778285         | V9 Topsoil           | 0.00 - 0.00 | Dark Brown  | Loamy Sand      | Vegetation | Stones       |
| 19778289         | V10 Topsoil          | 0.00 - 0.00 | Dark Brown  | Loamy Sand      | Stones     | Vegetation   |
| 19778294         | VS100                | 0.00 - 0.00 | Light Brown | Clay Loam       | None       | None         |
| 19778298         | VS101                | 0.00 - 0.00 | Dark Brown  | Silty Clay Loam | N/A        | N/A          |
| 19778303         | VS102                | 0.00 - 0.00 | Dark Brown  | Silty Clay Loam | N/A        | N/A          |

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: 190412-130 Client Reference: 62251557 Report Number: 502005  
Location: 90 Rose Green Road Plot 5 Order Number: 20090411 Superseded Report:

## Asbestos Identification - Solid Samples

### Reliability 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<br>(Brown)<br>Asbestos | Chrysotile<br>(White)<br>Asbestos | Crocidolite<br>(Blue) Asbestos | Fibrous<br>Actinolite | Fibrous<br>Anthophyllite | Fibrous<br>Tremolite | Non-Asbestos<br>Fibre |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------|------------------|----------|--------------------------------|-----------------------------------|--------------------------------|-----------------------|--------------------------|----------------------|-----------------------|
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V5100<br>0.00 - 0.00<br>SOLID<br>05/04/2019 00:00:00<br>12/04/2019 16:55:00<br>190412-130<br>19778294<br>TM048       | 23/04/2019       | James Richards   | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V5101<br>0.00 - 0.00<br>SOLID<br>05/04/2019 00:00:00<br>12/04/2019 16:55:00<br>190412-130<br>19778298<br>TM048       | 23/04/19         | Andrzej Fernecki | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V5102<br>0.00 - 0.00<br>SOLID<br>05/04/2019 00:00:00<br>12/04/2019 16:55:00<br>190412-130<br>19778303<br>TM048       | 23/04/2019       | James Richards   | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V8 Topsoil<br>0.00 - 0.00<br>SOLID<br>05/04/2019 00:00:00<br>12/04/2019 16:55:00<br>190412-130<br>19778281<br>TM048  | 23/04/19         | Andrzej Fernecki | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V9 Topsoil<br>0.00 - 0.00<br>SOLID<br>05/04/2019 00:00:00<br>12/04/2019 16:55:00<br>190412-130<br>19778285<br>TM048  | 23/04/2019       | Paul Poynton     | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |
| Cust. Sample Ref.<br>Depth (m)<br>Sample Type<br>Date Sampled<br>Date Received<br>SDG<br>Original Sample<br>Method Number | V10 Topsoil<br>0.00 - 0.00<br>SOLID<br>05/04/2019 00:00:00<br>12/04/2019 16:55:00<br>190412-130<br>19778289<br>TM048 | 23/04/2019       | Lucy Caroe       | -        | Not Detected<br>(#)            | Not Detected<br>(#)               | Not Detected<br>(#)            | Not Detected<br>(#)   | Not Detected<br>(#)      | Not Detected<br>(#)  | Not Detected          |



# CERTIFICATE OF ANALYSIS

Validated

SDG: 190412-130 Client Reference: 62251557 Report Number: 502005  
Location: 90 Rose Green Road Plot 5 Order Number: 20090411 Superseded Report:

## Table of Results - Appendix

| Method No | Reference                                                                                        | Description                                                                                           |
|-----------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| PM001     |                                                                                                  | Preparation of Samples for Metals Analysis                                                            |
| PM024     | Modified BS 1377                                                                                 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| 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)                       |
| 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                                         |
| TM151     | Method 3500D, AWWA/APHA, 20th Ed., 1999                                                          | Determination of Hexavalent Chromium using Kone analyser                                              |
| TM173     | Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria | Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID                      |
| TM181     | US EPA Method 6010B                                                                              | Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES                                      |
| 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 IRIS Emission Spectrometer     |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).





# CERTIFICATE OF ANALYSIS

|           |                           |                   |          |                    |        |
|-----------|---------------------------|-------------------|----------|--------------------|--------|
| SDG:      | 190412-130                | Client Reference: | 62251557 | Report Number:     | 502005 |
| Location: | 90 Rose Green Road Plot 5 | Order Number:     | 20090411 | Superseded Report: |        |

## 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 NH<sub>4</sub> by the BRE method, VOC TICs and SVOC TICs.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. 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.

4. 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.

5. 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.

6. 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 (2005), 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.

7. 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.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

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

13. **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.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

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

18. 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.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

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

## General

21. 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.

22. 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.

23. 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.

24. **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.

## 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                                                       |
| 5 | Sampled on date not provided                                                |
| 6 | Sample holding time exceeded in laboratory                                  |
| 7 | Sample holding time exceeded due to late arrival of instructions or samples |

## Asbestos

### Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials 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 (2005).

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, based on HSG 248 (2005).

| 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.

**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.**