

Our ref: R2634-L20200804
Planning ref: P/2012/0168)

19 April 2020

Angela Guy
Wrexham County Borough Council
Environment & Planning Dpt.
16 Lord Street
Wrexham
LL11 1LG

by e-mail: angela.guy@wrexham.gov.uk

Dear Angela

**Bryn Foty, Ffordd Isaf, Gwynfryn
Verification Report**

Smith Grant LLP (SGP) produced a Remediation Strategy (R2634-R01; October 2018) for the above site, detailing remedial measures for the residential development in respect to elevated lead reported in the site soils. It is understood that a copy of the Strategy has been submitted for your approval.

Remedial works have now taken place and this verification report details the remedial works which have been completed in accordance with the Strategy. Remedial works required the placement of 150mm compacted aggregate break layer and 600mm of clean soil in garden areas. Verification of the depth of the soil cover and chemical testing of garden soils was completed in accordance with the Remediation Strategy.

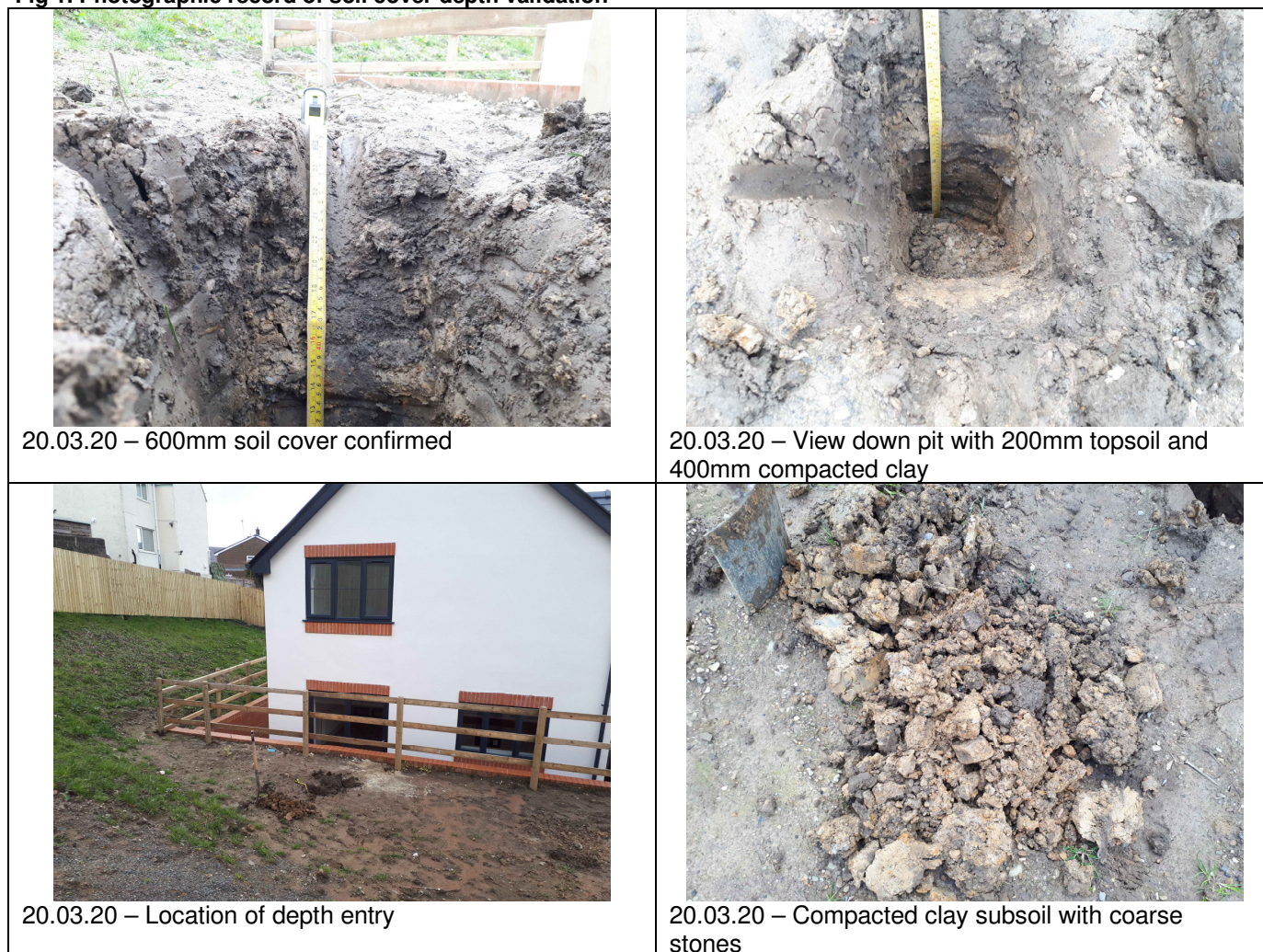
Soil Cover Layer

SGP attended site on 20 March 2020 following notification from the client that placement of the garden cover system had been completed. The client has confirmed that approximately 30m³ of deep subsoil generated during the excavation of the foundations has been used as subsoil and that approximately 16m³ of topsoil imported from an agricultural field in Frondeg.

The topsoil consisted of a dark brown clayey loam to a depth of 0.2m bgl underlain by a well compacted light brown firm clay with coarse stone subsoil to a minimum recorded depth of 0.6m. Due to the well compacted nature of the subsoil, extension of the test-pits beyond 0.6m to confirm the presence of the aggregate break layer was not possible.

A single hand-dug pit was excavated within the rear garden and confirmed the placement of 600mm of soil cover. Two additional pits were excavated to 0.4m with the garden area to allow the collection of topsoil and subsoil samples. Representative photographs are provided below:

Fig 1. Photographic record of soil cover depth validation



Following the depth validation, SGP collected 3 samples of both the imported topsoil (TS-S1 to TS-S3) and recovered subsoil (SS-S1 to SS-S3) satisfying the minimum sampling requirements of 3 samples per single source. Samples were submitted to i2Analytical (lab ref. 20-94230) for chemical testing as per Table 4.1 of the Remediation Strategy. The results are summarised in the table below with copies of the laboratory certificate provided in Appendix A.

Table 1. Soil cover results

Contaminant	Number of Samples	Range of Concentrations (mg/kg or indicated)	Soil Standard Adopted and Concentration (mg/kg or indicated)	Exceedances
Arsenic	6	9.6-13	37 S4UL	None
Cadmium	6	0.2-0.8	11 S4UL	None
Chromium (total)	6	16-25	910 S4UL	None
Chromium (VI)	6	<1.2	6 S4UL	None



Contaminant	Number of Samples	Range of Concentrations (mg/kg or indicated)	Soil Standard Adopted and Concentration (mg/kg or indicated)	Exceedances
Copper	6	19-320	2,400 S4UL	None
Lead	6	120-200	200 C4SL	None
Mercury (inorganic)	6	<0.3	40 S4UL	None
Nickel	6	17-23	180 S4UL	None
Zinc	6	55-220	3,700 S4UL	None
Asbestos screen	5	NAD	NAD	None
Naphthalene	6	<0.05	2.4 S4UL	None
Acenaphthylene	6	<0.05	170 S4UL	None
Acenaphthene	6	<0.05	210 S4UL	None
Fluorene	6	<0.05	170 S4UL	None
Phenanthrene	6	<0.05	95 S4UL	None
Anthracene	6	<0.05	2400 S4UL	None
Fluoranthene	6	<0.05	280 S4UL	None
Pyrene	6	<0.05	620 S4UL	None
Benzo(a)anthracene	6	<0.05	7.2 S4UL	None
Chrysene	6	<0.05	15 S4UL	None
Benzo(a)pyrene	6	<0.05	2.2 S4UL	None
Indeno(123cd)pyrene	6	<0.05	27 S4UL	None
Dibenzo(ah)anthracene	6	<0.05	0.24 S4UL	None
Benzo(ghi)perylene	6	<0.05	320 S4UL	None
Benzo(b)fluoranthene	6	<0.05	2.6 S4UL	None
Benzo(k)fluoranthene	6	<0.05	77 S4UL	None
Benzene	6	<0.001	0.087 S4UL	None
Toluene	6	<0.001	130 S4UL	None
Ethylbenzene	6	<0.001	47 S4UL	None
m/p-xylene	6	<0.001	59 S4UL	None
o-xylene	6	<0.001	56 S4UL	None
Aliphatic >C5-C6	6	<0.05	42 S4UL	None
Aliphatic >C6-C8	6	<0.05	100 S4UL	None
Aliphatic >C8-C10	6	<0.05	27 S4UL	None
Aliphatic >C10-C12	6	<0.05	130 S4UL (48 vap)	None
Aliphatic >C12-C16	6	<0.05	1,100 S4UL (24 sol)	None
Aliphatic >C16-C21	6	<0.05	65,000 S4UL (8.48 sol)	None
Aliphatic >C21-C35	6	<0.05	65,000 S4UL	None
Aromatic >C5-C7	6	<0.05	70 S4UL	None
Aromatic >C7-C8	6	<0.05	130 S4UL	None
Aromatic >C8-C10	6	<0.05	34 S4UL	None
Aromatic >C10-C12	6	<0.05	74 S4UL	None
Aromatic >C12-C16	6	<0.05	140 S4UL	None



Contaminant	Number of Samples	Range of Concentrations (mg/kg or indicated)	Soil Standard Adopted and Concentration (mg/kg or indicated)	Exceedances
Aromatic >C16-C21	6	<0.05	260 S4UL	None
Aromatic >C21-C35	6	<0.05	1,100 S4UL	None

NAD: No asbestos detected

S4UL: LQM/CIEH Suitable for Use Levels (S4ULs), residential with homegrown produce land use, (at 1% SOM, 6% SOM for metals). Copyright Land Quality Management Ltd. Reproduced with permission publication number S4UL 3102. All rights reserved.

C4SL: Category 4 Screening Levels published by CL:AIRE (C4SLs); 'residential with homegrown produce land use' (at 1% SOM)

No exceedances of the assessment criteria were reported for the topsoil or subsoil.

The laboratory confirmed that there was insufficient sample from topsoil sample TS-S3 to complete an asbestos screen following their requirement to re-run the sample. Given the reported greenfield source and the concentrations of the other determinants this is not considered to impact the assessment or conclusions made within this report.

Aggregate Layer

The hand-excavated pit extended to 0.6m, however the base of the subsoil extended beyond this depth. As such confirmation of the presence of the aggregate break layer was not possible. The client has provided documentation confirming the import of quarried aggregate (MOT Type-1 sub-base) from Lloyd-Spar quarry, Cilcain imported by Huws Gray builders merchant. A copy of this documentation is provided in Appendix B

Conclusions

It is concluded that remedial works have been completed in accordance with the Remediation Strategy with a minimum of 600mm of clean soil placed within the garden area. Confirmation of the presence of the aggregate break layer was not possible due to the depth and compaction of the soil cover layer which extended beyond 0.6m, although the client has provided documentation to confirm the import of quarried stone for this use. The purpose of the aggregate layer is to reduce soil movement (via bioturbation etc.) from the underlying soils into the clean soil cover, however the well compacted clay which forms the subsoil layer is anticipated to reduce soil movement in any case.

Yours sincerely
for: Smith Grant LLP

D Wayland BSc MSc AssocCIWM MCIWEM C.WEM

Angela Guy
WCBC



Appendix A – Laboratory Certificate

**Daniel Wayland**

Smith Grant LLP
Station House
Station Road
Ruabon
Wrexham
LL146DL

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: dan.wayland@smithgrant.co.uk

Analytical Report Number : 20-94230

Replaces Analytical Report Number : 20-94230, issue no. 1

Additional analysis undertaken.

Project / Site name:	Bryn Foty	Samples received on:	24/03/2020
Your job number:	R2634	Samples instructed on:	24/03/2020
Your order number:		Analysis completed by:	03/04/2020
Report Issue Number:	2	Report issued on:	06/04/2020
Samples Analysed:	6 soil samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team

For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Iss No 20-94230-2 Bryn Foty R2634

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number: 20-94230

Project / Site name: Bryn Foty

Lab Sample Number				1481148	1481149	1481150	1481151	1481152
Sample Reference				TS-S1	TS-S2	TS-S3	SS-S1	SS-S2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.20	0.00-0.20	0.00-0.20	0.30-0.60	0.20-0.30
Date Sampled				20/03/2020	20/03/2020	20/03/2020	20/03/2020	20/03/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	26	24	26	17	15
Total mass of sample received	kg	0.001	NONE	0.48	0.48	0.50	0.50	0.50

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	I/S	Not-detected	Not-detected
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.9	6.9	7.5	6.8	6.0
Organic Matter	%	0.1	MCERTS	6.0	5.9	5.8	1.2	1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	11	9.6	10	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	0.7	0.8	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	25	22	19	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	22	25	320	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	140	130	120	170	200
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	19	17	21	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	220	170	190	55	78

Analytical Report Number: 20-94230

Project / Site name: Bryn Foty

Lab Sample Number	1481148	1481149	1481150	1481151	1481152
Sample Reference	TS-S1	TS-S2	TS-S3	SS-S1	SS-S2
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.00-0.20	0.00-0.20	0.00-0.20	0.30-0.60	0.20-0.30
Date Sampled	20/03/2020	20/03/2020	20/03/2020	20/03/2020	20/03/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 20-94230

Project / Site name: Bryn Foty

Lab Sample Number				1481153				
Sample Reference				SS-S3				
Sample Number				None Supplied				
Depth (m)				0.30-0.40				
Date Sampled				20/03/2020				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	19				
Total mass of sample received	kg	0.001	NONE	0.50				

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.7				
Organic Matter	%	0.1	MCERTS	2.0				

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05				
Fluorene	mg/kg	0.05	MCERTS	< 0.05				
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05				
Anthracene	mg/kg	0.05	MCERTS	< 0.05				
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Pyrene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80				
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2				
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	78				

Analytical Report Number: 20-94230

Project / Site name: Bryn Foty

Lab Sample Number				1481153				
Sample Reference				SS-S3				
Sample Number				None Supplied				
Depth (m)				0.30-0.40				
Date Sampled				20/03/2020				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				



Analytical Report Number : 20-94230

Project / Site name: Bryn Foty

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1481148	TS-S1	None Supplied	0.00-0.20	Brown loam and clay with gravel and vegetation.
1481149	TS-S2	None Supplied	0.00-0.20	Brown loam and clay with gravel and vegetation.
1481150	TS-S3	None Supplied	0.00-0.20	Brown loam and clay with gravel and vegetation.
1481151	SS-S1	None Supplied	0.30-0.60	Brown clay and loam with gravel and vegetation.
1481152	SS-S2	None Supplied	0.20-0.30	Brown clay and loam with gravel and vegetation.
1481153	SS-S3	None Supplied	0.30-0.40	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 20-94230

Project / Site name: Bryn Foty

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

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

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

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

Angela Guy
WCBC



Appendix B – Aggregate Import Ticket

New build
0/058

DELIVERY NOTE



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Ref: Cylf	Account No: P1053
Ref: No:	89434870
Dyddiad: Date:	4 Mar 19
Page:	1

Invoice to:
PLANT BUILDING CONTRACTORS LTD
233 SEABANK ROAD
WALLASEY
MERSEYSIDE
CH45 1HE

Deliver To:
fford issa
gwynfryn
LL11 5TS



M:07957 147628

You were served today by:
gŵr GAVIN BRUTE (14)

TALLY COLLECT		Customer order K9445621			
gib 11:01 Order ref					
llyfr	Disgrifiad	Pri a Telerau	Gwerth heb tax	Cylkadd tax	
Gw	Description	Price & Terms	Value ex Vat	Vat Rate	
14	LLOYDS BIG BAG NOT TVFB 1 40MM (CRUSHER RUN) INCLUDING BAG LSCRB ONE OFF PRICE AS NEEDED ASAP	28.88	404.32	20.00%	

REPRINT NOT A TAX DOCUMENT
RETURNED GOODS MAY INCUR A HANDLING CHARGE
PLEASE REPORT ANY DISCREPANCIES WITHIN 3 DAYS

Approximate weight 14000 kg

SIGN: _____

PRINT: _____

All materials purchased should be used and/or fitted in accordance with manufacturers instructions/details.

Cyfanswm Newyddau
Goods Total:

404.32
+ 80.87
= 485.19

Diolch am eidd eiddogaeth. Thank you for your business!

CBESFOEL INDUSTRIAL ESTATE
BHGOSTYLEN WREXHAM LL12 4B
T: 01978 284288 F: 01978 284184

TERMS: Best payment terms are 10 days in advance. All goods are sold on credit. If payment is not received within 10 days, the goods will be held on retention of title. If payment is not received within 10 days, the goods will be held on retention of title. If payment is not received within 10 days, the goods will be held on retention of title.

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Gwch i'r afael am ddiwedd gwerthu. For conditions of sale see over.

Ymweithwch a'n gwyboda am ddiwedd a' gwerthu. Please visit our website for branch details.