

Our Ref: MTCL/14795/ValRep

Your Ref:

Contact: Mathew Lake

Terra Firma (Wales) Ltd.

Consulting Geotechnical & Geo-Environmental Engineers
Site Investigation Contractors

5 Deryn Court, Wharfedale Road,
Pentwyn, Cardiff CF23 7HA
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Email: info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

23rd April 2019

Keeble Whelan Integrated Construction
88 Llanllienwen Road
Cwmrhydyceirw
Swansea
SA6 6LU

For the attn. of Mr Rod Keeble

Dear Rod,

Removal of Made Ground – Lllys Wern, Neath

1.0 Introduction

Keeble Whelan Integrated Construction are the appointed contractors for the above site on behalf of Tai Tarian.

Terra Firma Wales Limited previously carried out a site investigation for the site (report ref 14795) which identified elevated levels of arsenic in the made ground soils along with a fragment of asbestos containing material. As such, Terra Firma Wales Ltd recommended remedial measures consisting of capping garden areas or source removal.

Keeble Whelan Integrated Construction have recently excavated and removed the made ground soils under the supervision of Terra Firma Wales Limited. Following removal of the made ground, Terra Firma Wales Limited took six samples of the remaining natural soils and submitted the samples for laboratory chemical testing for arsenic and asbestos. The test certificate is presented in **Annex A**. The locations of the samples are presented in **Drawing 01**.

2.0 Soil Analysis

The samples were submitted for laboratory analysis at the laboratory of Chemtest. Results are summarised in Table 1 below.

Table 1 Summary of Soil Chemical Test Results					
Substance	SGV/GAC (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of Exceedences
			Minimum	Maximum	
Arsenic	37	CIEH	11	23	0
Asbestos	-	-	Not Detected		0

Notes

- 6 samples tested for both determinants

From the above table it can be seen that all substances tested for are present at levels below their respective human health threshold levels. Terra Firma Wales Limited also confirm that all made ground soils were removed during the site strip.

It is therefore confirmed that the contamination source has been removed and no pollutant linkage remains on site. The site is therefore considered acceptable for its intended residential end use.

I trust that the above is to your satisfaction, however, if you have any queries or require any further information please do not hesitate to contact me.

Yours sincerely

for: Terra Firma (Wales) Ltd

A handwritten signature in dark ink, appearing to read "M. Lake".

Mr Mathew Lake



2183

Final Report

Report No.: 19-12117-1

Initial Date of Issue: 16-Apr-2019

Client Terra Firma (Wales) Ltd

Client Address: 5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HA

Contact(s): mathew@terrafirmawales.co.uk

Project 14975

Quotation No.: Q18-15369 **Date Received:** 08-Apr-2019

Order No.: **Date Instructed:** 08-Apr-2019

No. of Samples: 6

Turnaround (Wkdays): 7 **Results Due:** 16-Apr-2019

Date Approved: 16-Apr-2019

Approved By:



Details: Martin Dyer, Laboratory Manager

Results - Soil

Project: 14975

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:					19-12117	19-12117	19-12117	19-12117	19-12117	19-12117
Quotation No.: Q18-15369	Chemtest Sample ID.:					807234	807235	807236	807237	807238	807239
	Client Sample ID.:					TP1	TP2	TP3	TP4	TP5	TP6
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.2	0.4	0.2	0.4	0.2	0.1
	Date Sampled:					05-Apr-2019	05-Apr-2019	05-Apr-2019	05-Apr-2019	05-Apr-2019	05-Apr-2019
	Time Sampled:					12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:					COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	-	-	-
Moisture	N	2030	%	0.020	17	17	23	17	18	17	17
Arsenic	U	2450	mg/kg	1.0	16	11	18	23	14	13	13

SOP	Title	Parameters included	Method summary
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

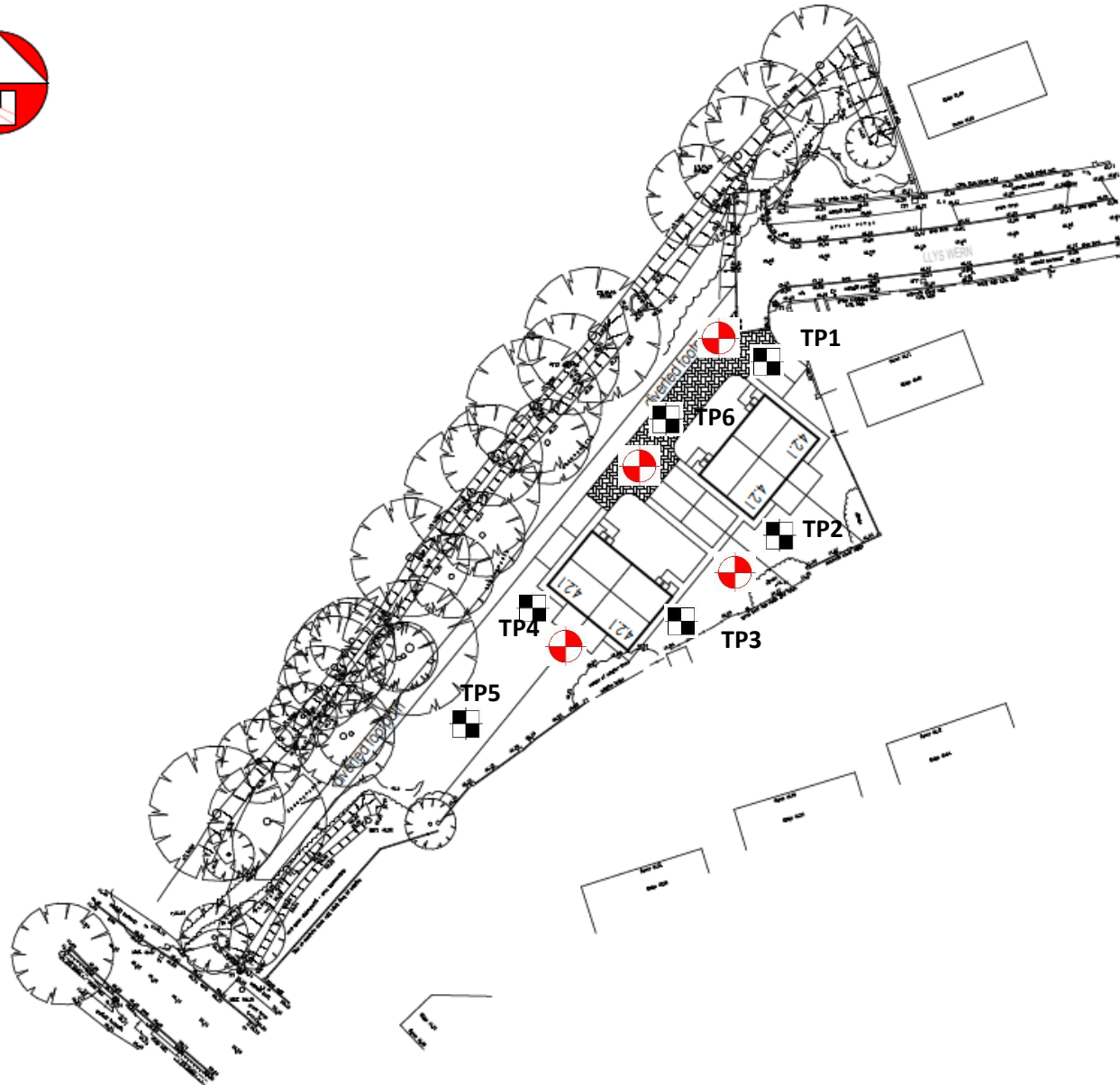
All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Annex A
Soil Chemical Test Results



Job Number:
14795

Job Title:
Llys Wern

Drawing Title:
Exploratory Hole Locations

Drawing Number:
01

Scale:
Not To Scale

Legend:
 New Trial Pit Locations
 Previous trial pit locations

