



**Canal &
River Trust**

Making life better by water

Anglo Welsh Ltd Base Relocation, Trevor Basin Contamination Report

Prepared by Tom Wilding, Graduate Environmental Scientist, July 2021



Introduction

The project aims to locate the existing Anglo Welsh Ltd boat hire base to a new building on the western arm at Trevor Basin of the Llangollen Canal. These works will require the excavation of soil, predominately within the central arm, to accommodate the new mooring points, levelled paved surface, and associated landscaped area. In supplement to the planning application for this project, soil samples were taken and analysed in the general works area to investigate the ground for signs of contamination and inform disposal options. This report provides a brief overview of these investigations.

Site Background

The site was known to constitute a goods yard as part of the historic Ruabon-Llangollen railway line. This was in use for goods traffic until 1964, and for passengers until 1965. The railway was built to serve the mineral bearing deposits in the area consisting of coal, iron, and limestone. The central arm has since been vacated and allowed to naturalise, forming a wooded and well vegetated area. The eastern arm now consists of a towpath and associated mooring points.

There were previously temporary buildings on the western arm belonging to Jones the Boats day-trip operation, which have since been removed from site. A privately owned property is also present to the south west of the site.

The Trust has no recent records of any land-based pollutions or spills of hazardous substances at this site.

Ground Investigation

Five samples were collected on the 4th August 2020 from an approximate depth of 0.5m. Four samples were taken from the central arm, with a fifth sample taken from the northern end of the western arm.

Following the receipt of the results for these samples, it was noted sample point 3 displayed elevated levels of lead. A further five samples were taken on 13th November 2020, at the same approximate depth in close proximity to sample point 3, in order to determine the extent of this contamination.

Locations are mapped on the attached sampling plan in Appendix 1.

Laboratory Analysis

The soil samples were submitted to Socotec UK Ltd for analysis. This included tests for the following chemical parameters:

- metals

- asbestos identification and quantification
- total petroleum hydrocarbon (TPH)

Full reports are attached in Appendix 2.

Results

All of the samples collected were found to be non-hazardous with no asbestos detected. All of the chemical values were below the threshold for residential without plant uptake scenario selected from “The LAQ/CIEH S4ULs for Human Health Risk Assessment, 2015”.

The concentration of lead at sample 3 was found to be at elevated concentrations higher than the threshold selected from “C4SL applicable to child receptor, Residential without plant uptake land use with acceptable Low Levels of Toxicological Concern of 2.1 ug kg⁻¹ bw day⁻¹”. The additional samples taken in November 2020, approximately 5m away from this original point, did not find elevated concentrations of lead.

Conclusion

The results of the sampling indicate the material on site is non-hazardous and is, for the most part, uncontaminated. The works will require the excavation of material within the central island with the intention for this to be redistributed on site. The majority of this material would appear to be chemically suitable for this, though it should be noted that Sample 3 indicated elevated levels of lead at 1160mg/kg (based on dry weight results at 35°C with a moisture content of 17.4%). However, the additional samples taken in November 2020, in close proximity to this original sample point, did not display elevated levels of lead. This suggests this contamination is therefore localised and not indicative of the site as a whole.

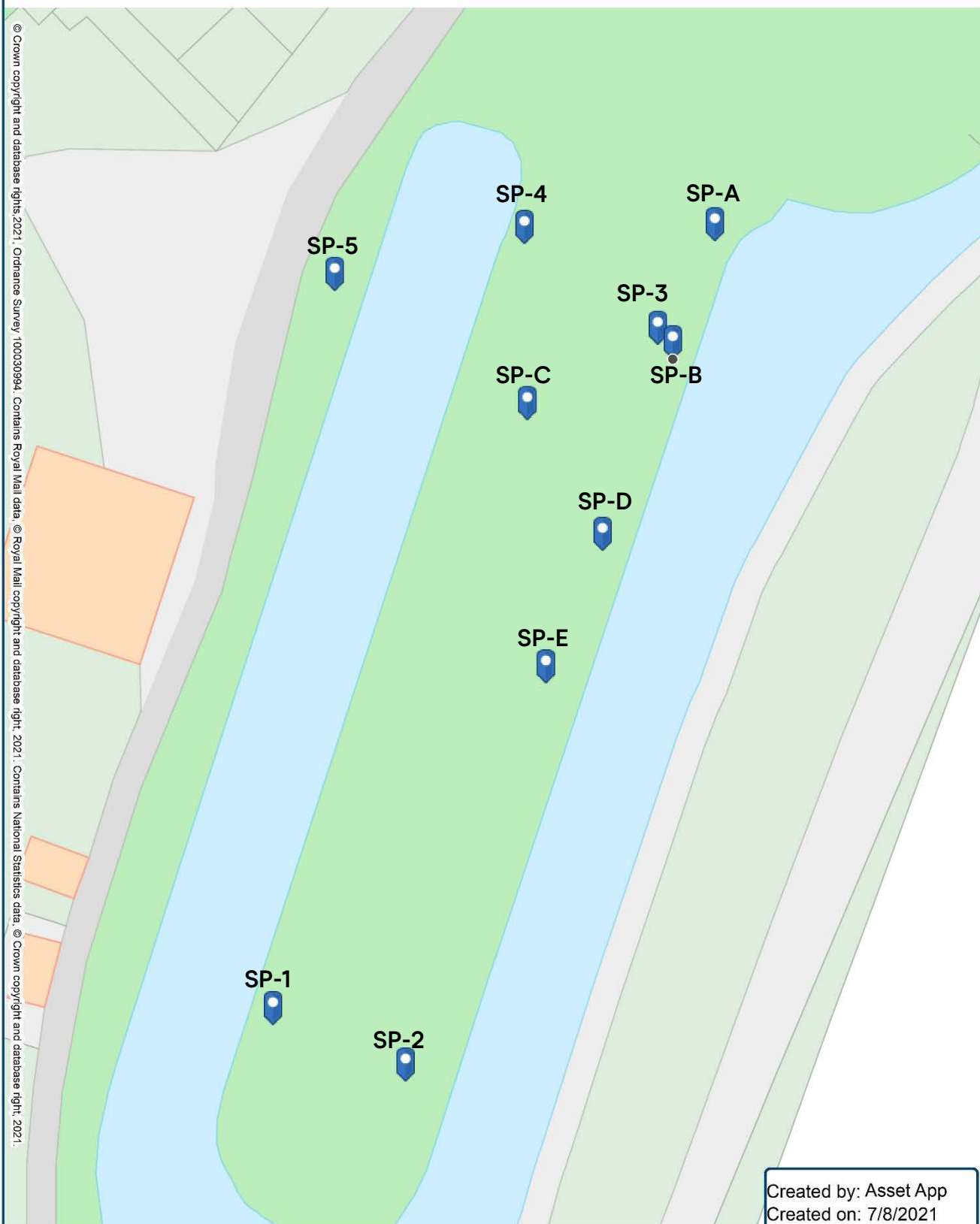
Whilst the level of lead at sample point 3 does exceed the C4SL based on a residential with plant uptake land use, it should be noted the site will not consist of residential accommodation, nor have land used for the growing of edible plants. The site will be used to accommodate non-residential moorings, with the narrowboats situated at this location anticipated to be hired out and travelling the network on a regular basis. The pedestrian routes between these moorings will also be paved with a hard standing surface. It is anticipated that the tracking back of soil is therefore negligible. In light of this, the C4SL for a land use of a public open space (park) is therefore deemed to be more suitable in this scenario, which sample 3 is below the threshold value for. The levels of lead are thus not deemed to be a cause for concern with regards to the reuse of material on site.

Appendix 1:

Sampling Plan



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Appendix 2:

Soil Sampling Results



Client: Canal & River Trust

Project Name: Other

Project No: 20111393

Date Issued: 26/11/2020

Analysis Results

Analysis	Method Code	MDL	Units	Accred	Project ID 20111393				
					Sample ID	Customer ID	Sample Type	Sampling Date	
					001	Trevoir A	SOLID	13/11/2020	
					002	Trevoir B	SOLID	13/11/2020	
Lead as Pb	ICP-MS3	0.1	mg/kg ^A	UM	003	Trevoir C	SOLID	13/11/2020	
					004	Trevoir D	SOLID	13/11/2020	
					005	Trevoir E	SOLID	13/11/2020	
Total Moisture at 105°C	TMA3	0.1	%	U	233.7#	337.9#	213.3#	267.7#	242.6#
Total Moisture at 35°C	CLANDPREP	0.1	%	N	27.0	32.9	34.7	33.7	28.9
Total Moisture at 35°C	CLANDPREP	0.1	%	N	26.0	28.5	33.4	29.6	24.4
Colour of Material	CLANDPREP	-	-	N	Brown	Brown	Brown	Brown	Brown
Major Constituents	CLANDPREP	-	-	N	SILT	SILT	SILT	SILT	SILT
Minor Constituents	CLANDPREP	-	-	N	Gravel	Gravel	Gravel	Gravel	Clay
Miscellaneous Constituents	CLANDPREP	-	-	N	Brick	Roadlets	Roadlets	Roadlets	Gravel
Description of Solid Material	CLANDPREP	-	-	N	SILT	SILT	SILT	SILT	SILT
Settings	Grid Reference	-	-	N	327236	327233	327223	327228	327224
Northings	Grid Reference	-	-	N	342458	342450	342446	342437	342428



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