



National Transgender Monument - Sackville Gardens

Preliminary Ground Conditions Report

FINAL



CENTRAL ALLIANCE
GROUND ENGINEERING TECHNICAL SERVICES

CENTRAL ALLIANCE CONTROL SHEET

Title: National Transgender Monument – Sackville Gardens

Client: ARUP on behalf of Sparkle

Issue Date: July 24

Office: Central Alliance Pre-Construction Services Limited, (Part of RSK Environment Limited), Alliance House, South Park Way, Wakefield 41 Business Park, Wakefield, WF2 0XJ

Version: 02

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Date: December 2023	Date: January 2024	Date: January 2024

VERSION CONTROL SHEET

Reference	Date	Status	Amended by	Approved by
FAC-01	23/01/2024	Draft	-	AJB
FAC-02	09/07/2024	Final	-	BF

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1 INTRODUCTION

1.1 Commissioning

Central Alliance Pre-Construction Services Limited (Part of RSK Group Limited) was instructed by ARUP to undertake a preliminary ground conditions report at their site located at Sackville Gardens, Sackville Street, Manchester, England.

1.2 Objectives

The objective of the report is to review publicly obtainable data and carry out a high level ground conditions assessment to establish the suitability to erect a monument in the existing gardens off Sackville Street.

1.3 Limitations

This report presents a description of the site at the time of the study.

There may be other conditions prevailing at the site which have not been disclosed by this investigation and which have not been considered by this report. Responsibility cannot be accepted for conditions at the site not revealed by the investigation and confirmation of intermediate ground conditions between exploratory holes should be considered if deemed necessary.

Unless instructed by the Client, Central Alliance (CA) is not obliged to and disclaims any obligation to update the report for events taking place after the date on which this investigation was undertaken.

2 DESK STUDY

2.1 Existing Information

No previously completed ground investigation reports on the study area have been provided to CA.

2.2 Proposed Development

It is currently proposed to construct a monument consisting a diorama of the evolution of the Transgender movement. The monument is proposed to combine natural stone footings holding steel sheets depicting the movements progression.

2.3 Site location

The site is located at Sackville Gardens, Sackville Street, within the Gay Village area of Manchester approximately 250 m west of Manchester Piccadilly Railway Station.

Site location details are presented in **Error! Reference source not found.** and the site location plan is presented in **Figure 1.**

Table 1 - Site Location Details

Site name	National Transgender Monument – Sackville Gardens
Full site address and postcode	Sackville Gardens, Sackville Street, Manchester, M1 3LZ.
National Grid reference	SJ 84432 97802

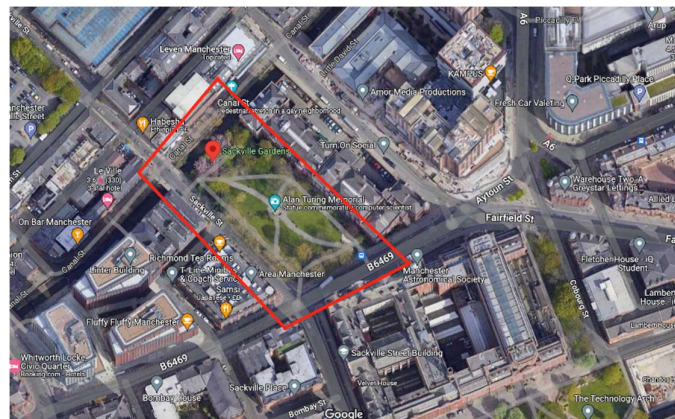


Figure 1 - Site Location and Red Line Boundary (Google Maps©, 2023)

2.4 Site Description and Surrounding Area

The site is currently a landscaped grassed area bordered by trees, transected by paved footways. The gardens have a notable Alan Turing Memorial in the center and 'The Tree of Life' in the northern portion of the site. The site is bound by a Manchester College building (Shena Simon Campus) to the North East, the B6469 to the South East, Sackville Street to the South West and Canal Street / Manchester Canal to the North West.

2.5 Site History

In the mid-1800s the site is identified to have been occupied by 'Earl of Balcarras Cannel and King Coal Wharf' and by the late 1800s the site was occupied by an unidentified large factory building.

The land was purchased by Manchester Corporation in 1900 and laid out with walks, lawns and flower beds. Known as Whitworth Gardens, it was planned to complement the Municipal College of Technology's Sackville Street Building. It is regularly used for events, such as Village People and Manchester Pride, and as the meeting point each morning for Free Manchester Walking Tours.

2.6 Geology

2.6.1 Made Ground

Made Ground is not indicated to be present at the location; however, due to the nature of the site, deposits associated with highways and general construction are anticipated to be present.

2.6.2 Anticipated geological sequence

Published records (British Geological Survey, BGS) for the area indicate the geology of the site to be characterised by the strata recorded in **Tables 2** and **3**, seen as follows:

Table 2 - Site Geology (Superficial)

Strata	Description
Till, Devensian	Till is unsorted and unstratified drift, generally overconsolidated. It consists of a heterogenous mixture of clay, sand, gravel, and boulders varying widely in size and shape.
Relevant information sources: BGS Geology Viewer ☒ BGS Geoindex ☒ Previous SI reports ☐	

Table 3 - Site Geology (Solid Geology)

Strata	Description
Chester Sandstone Formation	From a coarse-grained, typically well-cemented proximal facies to a fine-grained, less well-cemented distal facies.
Relevant information sources: BGS Geology Viewer ☒ BGS Geoindex ☒ Previous SI reports ☐	

2.7 Hydrogeology and Hydrology

The designation of the aquifer classifications for the soils and bedrock underlying the site are presented in **Table 4**.

Table 4 - Aquifer Classification

Strata		Aquifer Classification
Superficial Deposits	Till, Devensian	Secondary (undifferentiated)
Solid Geology	Chester Sandstone Formation	Principal Aquifer

2.8 Current Land Use

The site is currently used as a public space. The area is a grass landscape area with public footways crossing through.

2.9 Mining and Quarrying

The site is not located within an area at risk from Coal Mining.

2.10 Unexploded Ordnance

A Preliminary UXO Risk Assessment for the subject site has identified that the site is within an area of low to moderate risk.

3 SAMPLING INVESTIGATION

3.1 General Fieldwork Information

An engineer from Central Alliance visited the proposed locations of the monument on 8 December 2023. During this visit they observed the general surroundings and obtained a sample of shallow topsoil materials for laboratory testing.

3.2 Site Observations

The site visit identified that there was no evidence of contamination in the proposed location of the monument, nor were there any potential sources of contamination identified in the immediate vicinity of the site. The general site setting and location of the proposed structure are identified on the following photographs:



Figure 2 - Area surrounding sample location (North-East)



Figure 3 - General site setting of Sackville Gardens (From the North-West Corner)



Figure 4 - View South East across the park

3.3 Chemical Laboratory Testing

Chemical testing was scheduled by Central Alliance on selected samples recovered during the ground investigation. The samples were sent to Envirolab at their laboratory in Hyde, Chester.

All testing was carried out in accordance with the laboratory's UKAS accreditation.

The laboratory testing scheduled included the following:

- 1 No. Suite E, including:
 - Arsenic
 - Boron
 - Cadmium
 - Chromium (total)
 - Copper
 - Lead
 - Mercury
 - Nickel
 - Zinc
 - pH
 - Water-soluble Sulfate (as SO₄)
 - Soil organic matter
 - Total Petroleum Hydrocarbons by CWG
 - Speciated Polycyclic Aromatic Hydrocarbons (US EPA 16 PAHs)
 - VOCs
 - Phenols
 - Cyanide (total)
 - Asbestos Screen and ID
 - Asbestos Quantification (if required)

4 GROUND AND GROUNDWATER CONDITIONS

4.1 Summary of Observed Ground Conditions

The site was observed to have surface cover of topsoil with a number of concrete paved footpaths bisecting the park.

4.2 Chemical Laboratory Testing

The results of the contamination related testing undertaken on a single sample of reworked topsoil/made ground is included as Appendix B. Generally, the results have been assessed using the LQM/CIEH Suitable for Use Levels (S4ULs) for Human Health Risk Assessment (Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3170; All rights reserved).

Where no S4UL is available, reference is made to the published Category 4 Screening Levels (C4SLs) for standard land use. For the purpose of this report, all S4ULs or C4SLs will be referred to as Generic Assessment Criteria (GAC).

With respect to the assessment of the site, as the site is proposed to comprise the erection of a new monument, therefore, the most appropriate values are considered to be the GACs for a public open space (public park) as the existing site use will not change as part of the installation. Based on the laboratory results, a SOM of 1% has been used in the assessment.

A summary of the contamination related testing is presented as follows:

Table 5 - Summary of Contamination Testing

Determinand	Conc. Recorded (mg/kg)	No. of Samples Tested	Generic Assessment Criteria (GAC) ¹ mg/kg	No. of samples exceeding GAC
Cyanide	<1	1	170	0
Phenols (Total by HPLC)*	<0.2	1	440	0
Arsenic	5	1	170	0
Boron	<1.0	1	46,000	0
Cadmium	<0.5	1	880	0
Copper	24	1	44,000	0
Chromium	9	1	33,000	0
Lead	57	1	1,300	0
Mercury	<0.17	1	240	0
Nickel	8	1	800	0
Zinc	57	1	173,200	0

Acenaphthene	0.07	1	29,000	0
Acenaphthylene	0.02	1	29,000	0
Anthracene	0.16	1	149,000	0
Benzo(a)anthracene	0.50	1	49	0
Benzo(a)pyrene	0.34	1	21	0
Benzo(b)fluoranthene	0.46	1	13	0
Benzo(ghi)perylene	0.15	1	1,390	0
Benzo(k)fluoranthene	0.21	1	367	0
Chrysene	0.61	1	93	0
Dibenzo(ah)anthracene	<0.04	1	1.1	0
Fluoranthene	1.22	1	3,300	0
Fluorene	0.06	1	19,600	0
Indeno(123-CD)pyrene	0.16	1	146	0
Naphthalene	<0.03	1	1,200	0
Phenanthrene	0.79	1	6,200	0
Pyrene	1.25	1	15,000	0
TPH CWG with clean up				
Ali C5-C6	<0.01	1	90,000	0
Ali C6-C8	<0.01	1	150,000	0
Ali C8-C10	<1	1	14,000	0
Ali C10-C12	<1	1	21,000	0
Ali C12-C16	<1	1	25,000	0
Ali C16-C35	22	1	450,000	0
Aro C8-C10	2	1	7,200	0
Aro C10-C12	1	1	9,200	0
Aro C12-C16	5	1	10,200	0
Aro C16-C21	18	1	7,600	0
Aro C21-C35	60	1	7,800	0
Benzene	<0.01	1	190	0
Toluene	<0.01	1	90,000	0
Ethyl Benzene	<0.01	1	17,000	0
M & P Xylene	<0.01	1	17,000	0
o Xylene	<0.01	1	17,000	0

Notes

Generic assessment criteria not calculated owing to low volatility of substance and therefore no pathway, or an absence of toxicological data.

* The GAC for Phenol is based on a threshold which is protective of direct contact (SC050021/Phenol SGV report)

The sample of topsoil/made ground materials tested were recorded to not have elevated concentrations above the relevant GAC for a public open space (public park).

Asbestos

The sample of topsoil/made ground screened for asbestos fibres did not identify any fibres to be present.

5 GROUND CONTAMINATION

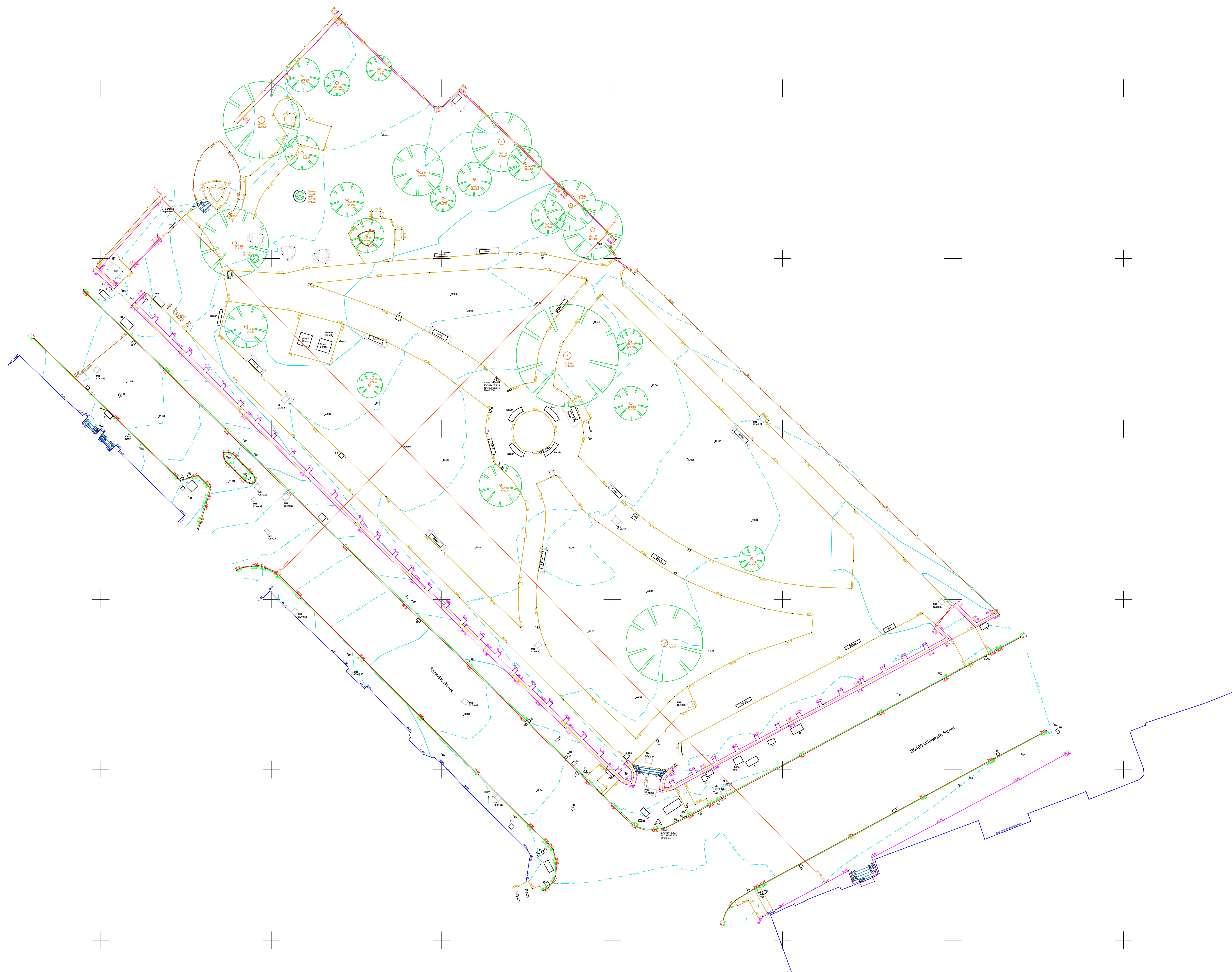
5.1 Overview

There is the potential for deeper sources of made ground on the site which may pose a contamination risk. However, given the age of the previous developments and the limited excavation and disturbance to the soils beneath and around the proposed monument during the construction phase, it is assumed the impact of the site end users and construction workers is considered to be negligible. This is also supported by the lack of contamination recorded in sample of shallow topsoil obtained from the site as part of this assessment.

Any made ground arisings which are generated as part of the construction works off site should be disposed of at a licensed tip off site. However, shallow topsoil arisings may stay on the site, if they can be accommodated.

Appendix A

Topographic Survey



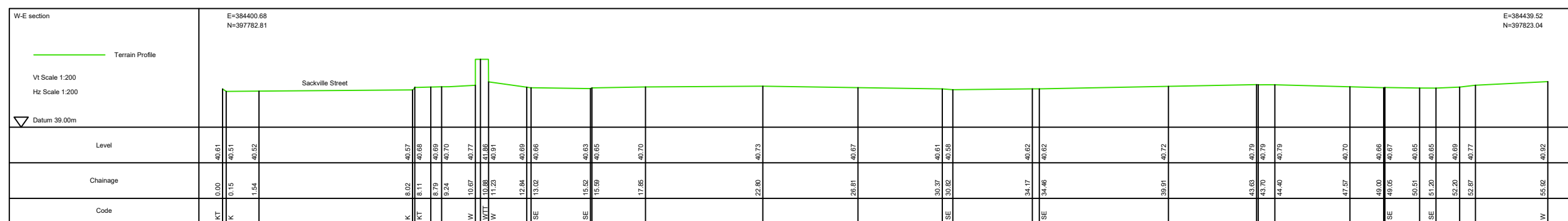
TOPOGRAPHICAL LEGEND

	Building
	Building Canopy
	Building Overhead
	Surface Edge
	Road Edge
	Road Kerb Channel
	Barling
	Fence
	Wall
	Structure
	Structure Underground
	Vegetation Extents
	Drainage Channel
	Sea
	Above Ground Pipe
	Overland Pipe
	Overhead Electricity
	Overhead Television
	Railway Track
	Coastline Line

[illegible]

REV		DETAILS		BY	DATE
ORD		DATUM			
ORDNANCE SURVEY Reference to OS Plans: 1:50 000 Grid with origin at CA671		ORDNANCE SURVEY Related to OS Network Reference Stations by VEDNETA observations			
 CENTRAL ALLIANCE GROUND ENGINEERING TECHNICAL SERVICES					
					
Tel: 011524 228889			Alliance House, South Park Way		
Email: info@central-alliance.co.uk			Walsley Mill, 41 Byram Park,		
			Walsley, WFG 23		
CLIENT:					
New Practice					
6-14 Underwood Street					
London					
N1 7JQ					
SITE LOCATION					
Saville Gardens					
Stoke Newington, Manchester, M1 3LZ					
SURVEY TITLE:					
Topographical Survey					
SURVEYED BY:		DATE:	SCALE/NUMBER:		
SP			Saville Gardens, P		
DRAWN BY:		DATE:	SCALE:		
NT		Nov 23	1:200 @ A3		
APPROVED BY:		DATE:	PLOT NUMBER:		
NT		Nov 23	1 of 2 A3 top		
			REV:		

N/S section		E-156/87 22 N-107/87 08		E-156/88 10 N-107/88 19	
Termin Profile V1 Scale 1:200 H2 Scale 1:200 △ Elevation 98.00m					
Level	Chambers	Code	Level	Chambers	Code
94.1	1.05	SE	94.1	1.05	SE
95.1	1.21	SE	95.1	1.21	SE
96.1	1.37	SE	96.1	1.37	SE
97.1	1.53	SE	97.1	1.53	SE
98.1	1.69	SE	98.1	1.69	SE
99.1	1.85	SE	99.1	1.85	SE
100.1	2.01	SE	100.1	2.01	SE
101.1	2.17	SE	101.1	2.17	SE
102.1	2.33	SE	102.1	2.33	SE
103.1	2.49	SE	103.1	2.49	SE
104.1	2.65	SE	104.1	2.65	SE
105.1	2.81	SE	105.1	2.81	SE
106.1	2.97	SE	106.1	2.97	SE
107.1	3.13	SE	107.1	3.13	SE
108.1	3.29	SE	108.1	3.29	SE
109.1	3.45	SE	109.1	3.45	SE
110.1	3.61	SE	110.1	3.61	SE
111.1	3.77	SE	111.1	3.77	SE
112.1	3.93	SE	112.1	3.93	SE
113.1	4.09	SE	113.1	4.09	SE
114.1	4.25	SE	114.1	4.25	SE
115.1	4.41	SE	115.1	4.41	SE
116.1	4.57	SE	116.1	4.57	SE
117.1	4.73	SE	117.1	4.73	SE
118.1	4.89	SE	118.1	4.89	SE
119.1	5.05	SE	119.1	5.05	SE
120.1	5.21	SE	120.1	5.21	SE
121.1	5.37	SE	121.1	5.37	SE
122.1	5.53	SE	122.1	5.53	SE
123.1	5.69	SE	123.1	5.69	SE
124.1	5.85	SE	124.1	5.85	SE
125.1	6.01	SE	125.1	6.01	SE
126.1	6.17	SE	126.1	6.17	SE
127.1	6.33	SE	127.1	6.33	SE
128.1	6.49	SE	128.1	6.49	SE
129.1	6.65	SE	129.1	6.65	SE
130.1	6.81	SE	130.1	6.81	SE
131.1	6.97	SE	131.1	6.97	SE
132.1	7.13	SE	132.1	7.13	SE
133.1	7.29	SE	133.1	7.29	SE
134.1	7.45	SE	134.1	7.45	SE
135.1	7.61	SE	135.1	7.61	SE
136.1	7.77	SE	136.1	7.77	SE
137.1	7.93	SE	137.1	7.93	SE
138.1	8.09	SE	138.1	8.09	SE
139.1	8.25	SE	139.1	8.25	SE
140.1	8.41	SE	140.1	8.41	SE
141.1	8.57	SE	141.1	8.57	SE
142.1	8.73	SE	142.1	8.73	SE
143.1	8.89	SE	143.1	8.89	SE
144.1	9.05	SE	144.1	9.05	SE
145.1	9.21	SE	145.1	9.21	SE
146.1	9.37	SE	146.1	9.37	SE
147.1	9.53	SE	147.1	9.53	SE
148.1	9.69	SE	148.1	9.69	SE
149.1	9.85	SE	149.1	9.85	SE
150.1	10.01	SE	150.1	10.01	SE
151.1	10.17	SE	151.1	10.17	SE
152.1	10.33	SE	152.1	10.33	SE
153.1	10.49	SE	153.1	10.49	SE

[illegible]

REV.	DETAILS	BY	DATE

GRID	DATUM
ORDNANCE SURVEY Related to OS Pseudo 1:1 Grid with origin at CA01.	ORDNANCE SURVEY Related to OS Network Reference Stations by VRS(RTK) observations.



Tel: (0)1924 229889 Alliance House, South Park Way,
Email: info@central-alliance.co.uk Wakefield 41 Business Park,
Web: www.central-alliance.co.uk Wakefield, WF2 0XJ

CLIENT: New Practice
6-14 Underwood Street
London
N1 7JQ

Sackville Gardens
Sackville Street, Manchester, M1 3LZ

SURVEY TITLE: Long Sections

SURVEYED BY: SP	DATE: Nov 23	DRAWING NUMBER: Sackville Gardens_P	
DRAWN BY: LS	DATE: Nov 23	SCALE: 1:200 @ A1	
APPROVED BY: NT	DATE: Nov 23	SHEET NUMBER: 2 of 2 A1 sections	REV:

Appendix B

Chemical Laboratory Test Results

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/12395
Issue Number: 1

Date: 08 January, 2024

Client: Central Alliance
Alliance House
South Park Way
South Park Way
Wakefield 41 Business Park
Wakefield
WF2 0XJ

Project Manager: Bradley Falcus/Lab results
Project Name: Sackville - Pro-Bono Project
Project Ref: Not specified
Order No: N/A
Date Samples Received: 08/12/23
Date Instructions Received: 14/12/23
Date Analysis Completed: 08/01/24

Approved by:



Sophie France
Client Manager

Envirolab Job Number: 23/12395

Client Project Name: Sackville - Pro-Bono Project

Client Project Ref: Not specified

Lab Sample ID	23/12395/1							Units	Limit of Detection	Method ref
Client Sample No	ES1									
Client Sample ID	Sackville									
Depth to Top	0.00									
Depth To Bottom										
Date Sampled	08-Dec-23									
Sample Type	SOIL - ES									
Sample Matrix Code	6E									
% Stones >10mm _A	7.1							% w/w	0.1	A-T-044
pH _D ^{M#}	8.21							pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.03							g/l	0.01	A-T-026s
Cyanide (total) _A ^{M#}	<1							mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2							mg/kg	0.2	A-T-050s
Organic Matter _D ^{M#}	4.3							% w/w	0.1	A-T-032s
Arsenic _D ^{M#}	5							mg/kg	1	A-T-024s
Boron (water soluble) _D ^{M#}	<1.0							mg/kg	1	A-T-027s
Cadmium _D ^{M#}	<0.5							mg/kg	0.5	A-T-024s
Copper _D ^{M#}	24							mg/kg	1	A-T-024s
Chromium _D ^{M#}	9							mg/kg	1	A-T-024s
Lead _D ^{M#}	57							mg/kg	1	A-T-024s
Mercury _D	<0.17							mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	8							mg/kg	1	A-T-024s
Zinc _D ^{M#}	57							mg/kg	5	A-T-024s

Envirolab Job Number: 23/12395

Client Project Name: Sackville - Pro-Bono Project

Client Project Ref: Not specified

Lab Sample ID	23/12395/1							Units	Limit of Detection	Method ref
Client Sample No	ES1									
Client Sample ID	Sackville									
Depth to Top	0.00									
Depth To Bottom										
Date Sampled	08-Dec-23									
Sample Type	SOIL - ES									
Sample Matrix Code	6E									
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil _D #	NAD									A-T-045
Asbestos Matrix (visual) _D	-									A-T-045
Asbestos Matrix (microscope) _D	-									A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A									A-T-045

Envirolab Job Number: 23/12395

Client Project Name: Sackville - Pro-Bono Project

Client Project Ref: Not specified

Lab Sample ID	23/12395/1							Units	Limit of Detection	Method ref
Client Sample No	ES1									
Client Sample ID	Sackville									
Depth to Top	0.00									
Depth To Bottom										
Date Sampled	08-Dec-23									
Sample Type	SOIL - ES									
Sample Matrix Code	6E									
PAH-16MS										
Acenaphthene _A ^{M#}	0.07							mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	0.02							mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	0.16							mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.50 ^U							mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.34							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.46							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.15							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	0.21							mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.61							mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	1.22							mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.06							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.16							mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03							mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.79							mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	1.25							mg/kg	0.07	A-T-019s
Total PAH-16MS _A	6.00							mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/12395

Client Project Name: Sackville - Pro-Bono Project

Client Project Ref: Not specified

Lab Sample ID	23/12395/1									
Client Sample No	ES1									
Client Sample ID	Sackville									
Depth to Top	0.00									
Depth To Bottom										
Date Sampled	08-Dec-23									
Sample Type	SOIL - ES									
Sample Matrix Code	6E									
VOC										
Dichlorodifluoromethane _A	<1							µg/kg	1	A-T-006s
Chloromethane _A	<10							µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene) _A [#]	<1 ^U							µg/kg	1	A-T-006s
Bromomethane _A [#]	<1							µg/kg	1	A-T-006s
Chloroethane _A [#]	<1							µg/kg	1	A-T-006s
Trichlorofluoromethane _A [#]	<1							µg/kg	1	A-T-006s
1,1-Dichloroethene _A [#]	<1 ^U							µg/kg	1	A-T-006s
Carbon Disulphide _A [#]	<1							µg/kg	1	A-T-006s
Dichloromethane _A	<5							µg/kg	5	A-T-006s
trans 1,2-Dichloroethene _A [#]	<1							µg/kg	1	A-T-006s
1,1-Dichloroethane _A [#]	<1							µg/kg	1	A-T-006s
cis 1,2-Dichloroethene _A [#]	<1							µg/kg	1	A-T-006s
2,2-Dichloropropane _A [#]	<1							µg/kg	1	A-T-006s
Bromochloromethane _A [#]	<5							µg/kg	5	A-T-006s
Chloroform _A [#]	<1							µg/kg	1	A-T-006s
1,1,1-Trichloroethane _A [#]	<1							µg/kg	1	A-T-006s
1,1-Dichloropropene _A [#]	<1							µg/kg	1	A-T-006s
Carbon Tetrachloride _A [#]	<1							µg/kg	1	A-T-006s
1,2-Dichloroethane _A [#]	<2							µg/kg	2	A-T-006s
Benzene _A [#]	<1							µg/kg	1	A-T-006s
Trichloroethene _A [#]	<1							µg/kg	1	A-T-006s
1,2-Dichloropropane _A [#]	<1							µg/kg	1	A-T-006s
Dibromomethane _A [#]	<1							µg/kg	1	A-T-006s
Bromodichloromethane _A [#]	<10							µg/kg	10	A-T-006s
cis 1,3-Dichloropropene _A [#]	<1							µg/kg	1	A-T-006s
Toluene _A [#]	<1							µg/kg	1	A-T-006s
trans 1,3-Dichloropropene _A [#]	<1							µg/kg	1	A-T-006s
1,1,2-Trichloroethane _A [#]	<1							µg/kg	1	A-T-006s
1,3-Dichloropropane _A [#]	<1							µg/kg	1	A-T-006s
Tetrachloroethene _A [#]	<1							µg/kg	1	A-T-006s
Dibromochloromethane _A [#]	<3							µg/kg	3	A-T-006s
1,2-Dibromoethane _A [#]	<1							µg/kg	1	A-T-006s

Envirolab Job Number: 23/12395

Client Project Name: Sackville - Pro-Bono Project

Client Project Ref: Not specified

Lab Sample ID	23/12395/1							Units	Limit of Detection	Method ref
Client Sample No	ES1									
Client Sample ID	Sackville									
Depth to Top	0.00									
Depth To Bottom										
Date Sampled	08-Dec-23									
Sample Type	SOIL - ES									
Sample Matrix Code	6E									
Chlorobenzene _A [#]	<1							µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane _A	<1							µg/kg	1	A-T-006s
Ethylbenzene _A [#]	<1							µg/kg	1	A-T-006s
m & p Xylene _A [#]	<1							µg/kg	1	A-T-006s
o-Xylene _A [#]	<1							µg/kg	1	A-T-006s
Styrene _A [#]	<1							µg/kg	1	A-T-006s
Bromoform _A [#]	<3							µg/kg	3	A-T-006s
Isopropylbenzene _A [#]	<1							µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane _A	<1							µg/kg	1	A-T-006s
1,2,3-Trichloropropane _A [#]	<1							µg/kg	1	A-T-006s
Bromobenzene _A [#]	<1							µg/kg	1	A-T-006s
n-Propylbenzene _A [#]	<1							µg/kg	1	A-T-006s
2-Chlorotoluene _A [#]	<1							µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene _A [#]	<1							µg/kg	1	A-T-006s
4-Chlorotoluene _A [#]	<1							µg/kg	1	A-T-006s
tert-Butylbenzene _A [#]	<2							µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene _A [#]	<1							µg/kg	1	A-T-006s
sec-Butylbenzene _A [#]	<1							µg/kg	1	A-T-006s
4-Isopropyltoluene _A [#]	<1							µg/kg	1	A-T-006s
1,3-Dichlorobenzene _A	<1							µg/kg	1	A-T-006s
1,4-Dichlorobenzene _A [#]	<1							µg/kg	1	A-T-006s
n-Butylbenzene _A [#]	<1							µg/kg	1	A-T-006s
1,2-Dichlorobenzene _A [#]	<1							µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP) _A	<2							µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene _A	<3							µg/kg	3	A-T-006s
Hexachlorobutadiene _A [#]	<1							µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene _A	<3							µg/kg	3	A-T-006s

Envirolab Job Number: 23/12395

Client Project Name: Sackville - Pro-Bono Project

Client Project Ref: Not specified

Lab Sample ID	23/12395/1									
Client Sample No	ES1									
Client Sample ID	Sackville									
Depth to Top	0.00									
Depth To Bottom										
Date Sampled	08-Dec-23									
Sample Type	SOIL - ES									
Sample Matrix Code	6E									
TPH CWG with Clean Up										
Ali >C5-C6 _A	<0.01							mg/kg	0.01	A-T-022s
Ali >C6-C8 _A	<0.01							mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1							mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1							mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1							mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	1							mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	21							mg/kg	1	A-T-055s
Total Aliphatics _A	22							mg/kg	1	Calc-As Recd
Aro >C5-C7 _A [#]	<0.01							mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01							mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	2							mg/kg	1	A-T-055s
Aro >C10-C12 _A	1							mg/kg	1	A-T-055s
Aro >C12-C16 _A	5							mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	18							mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	60							mg/kg	1	A-T-055s
Total Aromatics _A	87							mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35) _A	109							mg/kg	1	Calc-As Recd
BTEX - Benzene _A [#]	<0.01							mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01							mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01							mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01							mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01							mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01							mg/kg	0.01	A-T-022s

Report Notes

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
 The results reported herein relate only to the material supplied to the laboratory.
 The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
 Analytical results reflect the quality of the sample at the time of analysis only.
 Opinions and Interpretations expressed are outside our scope of accreditation.
 The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
 A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "A"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
 Stones etc. are not removed from the sample prior to analysis
 Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs

Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).
 For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
 For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
 All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
 Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.
 Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	Central Alliance, Alliance House, South Park Way, South Park Way, Wakefield 41 Business Park, Wakefield, WF2 0XJ	Project No:	23/12395
Project:	Sackville - Pro-Bono Project	Date Received:	14/12/2023 (am)
Clients Project No:		Cool Box Temperatures (°C):	10.4

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/12395/1
Client Sample No	ES1
Client Sample ID/Depth	Sackville 0.00m
Date Sampled	08/12/23
A-T-006s	18/12/2023
A-T-019s	18/12/2023
A-T-022s	18/12/2023
A-T-024s	18/12/2023
A-T-026s	16/12/2023
A-T-027s	18/12/2023
A-T-031s	18/12/2023
A-T-032s	20/12/2023
A-T-042sTCN	18/12/2023
A-T-044	18/12/2023
A-T-045	15/12/2023
A-T-050s	08/01/2024
A-T-055s	18/12/2023
Calc-As Recd	18/12/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report