Carley Daines and Partners Limited

Consulting Civil and Structural Engineers

DOWNLEY DRIVE

MANCHESTER

M4 7JU



FURTHER SITE INVESTIGATION

UNDERTAKEN FOR

GREAT PLACES HOUSING GROUP

Ref: 19-B-12490/Downley Drive **Rev "A"** **4th March 2024**

Principal: **D.J. Middleton BEng(Hons) CEng MIStructE**
Company Number: **11006567** Address **6 Brunswick Street, Carlisle, CA1 1PN**
VAT Number: **285 0439 91**

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1. INTRODUCTION AND BACKGROUND

The site is in east Manchester and has Planning Permission (130390/FO/2021) for development with a total of 75 social housing units (23 houses and 52 apartments). Planning Conditions were attached to the permission and Condition 8, relating to piling, remains undischarged. The Environment Agency, in their role as a statutory consultee have made objection to Manchester City Council, indicating that the site investigation undertaken contains insufficient information to satisfactorily determine if risk exists to controlled waters in the underlying principal aquifer. The further investigations are therefore intended to identify the level of risk by investigating the made ground and drift overlying the aquifer.

2. REVIEW OF PREVIOUS REPORTS AND CORRESPONDENCE

2.1 PHASE 1 PRA Rev B - CARLEY DAINES & PARTNERS – 27 November 2023

The report indicates that the site has had significant past industrial use from earliest recorded OS plans with a former steel works, wire works and sawmill all indicated being present in stages up to the 1960's.

Drift deposits both on and off site are indicated as Devensian Till (Diamicton Clay). Solid geology is indicated as Collyhurst Sandstone to the east and Manchester Marl to the west of site.

Groundwater vulnerability plans indicate the drift to be a low vulnerability secondary aquifer with the underlying bedrock classified as a principal aquifer – see Appendix 1.

2.2 PHASE 2 SITE INVESTIGATION – Rev A - CARLEY DAINES & PARTNERS – 20 July 2021

The report was based on an intrusive investigation of 8 boreholes to a depth of 6m plus 4 trial pits to a depth of 1m, plus recovery of soil samples for contamination testing.

The boreholes indicated made ground on site to a maximum depth of 4.2m overlying firm to stiff clay. Piled foundations were recommended.

Contamination testing revealed moderately elevated levels of metals & PAH. A design clean inert capping layer was recommended to soft landscaping.

2.3 ENVIRONMENT AGENCY CORRESPONDENCE

Letters from the EA to MCC Planning have been forwarded for information. These are dated 22 June 2021 and 22 November 2022.

In summary, the letters primarily refer to Planning Condition 8 (piling) and the EA confirm their objection to this condition being discharged by MCC Planning. Specifically, the correspondence raises concerns that the depth of drift has not been satisfactorily investigated and indicate that a nearby off-site borehole indicates that bedrock containing the principal aquifer may be at shallow depth. This suggests the thickness of protective drift above the aquifer may be insufficient, particularly if ground water were proved to be mobile.

The EA therefore seek an enhanced assessment of risk to controlled waters, based upon further investigation.

3. FURTHER INVESTIGATIONS

3.1 ADDITIONAL BOREHOLES

To further investigate the depth of Made Ground and natural Drift overlying the aquifer, 4 rotary boreholes were sunk to a maximum depth of 17.2m below surface level. The bedrock aquifer was not encountered in any of the boreholes. The borehole positions are indicated in Appendix 2 and full borehole logs are attached in Appendix 3.

The findings are indicated in the table below.

Location	Strata Encountered		
	Made Ground	Drift – Diamicton Till (Clay & Gravel)	Proven depth of Drift
BHR01	0.00 – 5.00	5.00 – 15.72	10.72
BHR02	0.00 – 3.45	3.45 – 17.21	13.76
BHR03	0.00 – 3.00	3.00 – 16.00	13.00
BHR04	0.00 – 4.00	4.00 – 15.80	11.80

3.2 SAMPLING AND TESTING

Four window sample holes were sunk to a nominal depth of 6m to recover samples from within the Made Ground and the natural underlying Drift for chemical contamination testing. The window sample positions are indicated in Appendix 2 and logs are attached in Appendix 4.

Two samples were selected from each of the window bores; one from within the Made Ground and one from within the Drift. The purpose of this was to compare the levels of any contamination across the soil horizon and specifically to investigate if any cross contamination had occurred into the Drift.

Chemical testing was carried out as both Soil and Leachate Analysis for the following range of contaminants, specifically selected to investigate contamination from previous land use as identified in the Phase 1 PRA (former steelworks, wire works and sawmill).

- General Inorganics
- Phenols
- Speciated PAH
- Heavy Metals / Metalloids
    - Aluminium
    - Arsenic
    - Chromium
    - Iron
    - Lead
    - Manganese
    - Molybdenum
    - Nickel
    - Tin
    - Vanadium
    - Zinc
- Monoaromatics
- Petroleum Hydrocarbons (Aromatic & Aliphatic)
- PCB's
- Miscellaneous Organics

3.2.1 SOIL ANALYSIS

To assess and benchmark the measured contamination concentrations, comparison has been made with published Soil Guideline Values (SGV's) contained in Generic Assessment Criteria for Human Health Risk Assessment Comparison – where appropriate using S4UL / C4SL / EA SGV criteria for "Residential with Homegrown Produce" end usage. In simple terms, this sets out maximum safe concentrations of in-soil contamination, typically in private gardens where vegetables could be grown and where young children might play.

3.2.1.1 MADE GROUND

Moderately elevated levels of Speciated PAH were found in a single sample of made ground as follows:

Benzo(b)fluoranthene – 4.5mg/kg (SGV 2.6mg/kg)

Benzo(a)pyrene – 3.4mg/kg (SGV 2.2mg/kg)

Dibenzo(a,h)anthracene – 0.54mg/kg (SGV 0.24mg/kg)

No other contamination was encountered.

3.2.1.2 DRIFT – DIAMICTON TILL

All samples tested indicated contamination levels below SGV's with many far below & also below the limit of detection.

3.2.2 LEACHATE ANALYSIS

3.2.2.1 MADE GROUND

All samples tested indicated very low levels of leachate, below the limit of detection.

3.2.2.2 DRIFT – DIAMICTON TILL

All samples tested indicated very low levels of leachate, below the limit of detection.

4. PILING

Installed piling is of the Continuous Flight Auger (CFA) type. This involves drilling a 300mm vertical shaft through the Made Ground and Drift to allow installation of the pile. The auger is withdrawn on completion of the drilling and concrete is pumped in through a central tube in the auger, immediately sealing the pile void.

Notwithstanding the status of Planning Condition 8, it is understood that all piling has been completed on site and this was carried out in October and November 2022. Furthermore, the housing units (Blocks 1 – 6) have been built out and handed over to the client. Piling to the apartments has been completed but construction has been delayed for unrelated reasons. This is expected to re-commence shortly as a lightweight steel frame.

A full set of pile logs are included in Appendix 6 and the block and apartment positions are indicated on the plan in Appendix 7.

5. RISK ASSESSMENT

Assessment of risk is carried out by consideration of a traditional conceptual site model (CSM) based upon source – pathway – receptor linkages. For a risk to be present, all three components of the identified pollutant linkage must be present.

Source

The source is readily identifiable as any on-site contamination. However, no significant contamination has been discovered within the Made Ground except for very slightly elevated levels of PAH and even then only when compared against the most sensitive assessment criteria. There is no evidence of cross contamination affecting the natural Drift, and leachate analysis in both Made Ground and Drift is so low as to be below the limit of detection.

Pathway

The pathway to the underlying aquifer would be via gravitational migration through underlying strata. However, the site and surrounding area is indicated on Drift geological plans as being Devensian Till (Diamicton), more generally known as clay which is highly impermeable. The borehole investigation has proved a site wide depth of Drift of at least 10.7m. The piling itself does not create a preferential pathway as the CFA pile type is immediately sealed with concrete on completion of the drilling process.

Receptor

There are no nearby natural watercourses.

The adjacent canal is effectively a sealed man-made system and should not be considered as a potential receptor to contamination migration.

The underlying aquifer is therefore the only potential receptor.

Conclusion

In view of the absence of any significant on-site contamination, the presence of a thick layer of impermeable clay and the method of piling, the risk to the aquifer from the proposed development is considered NEGLIGIBLE.

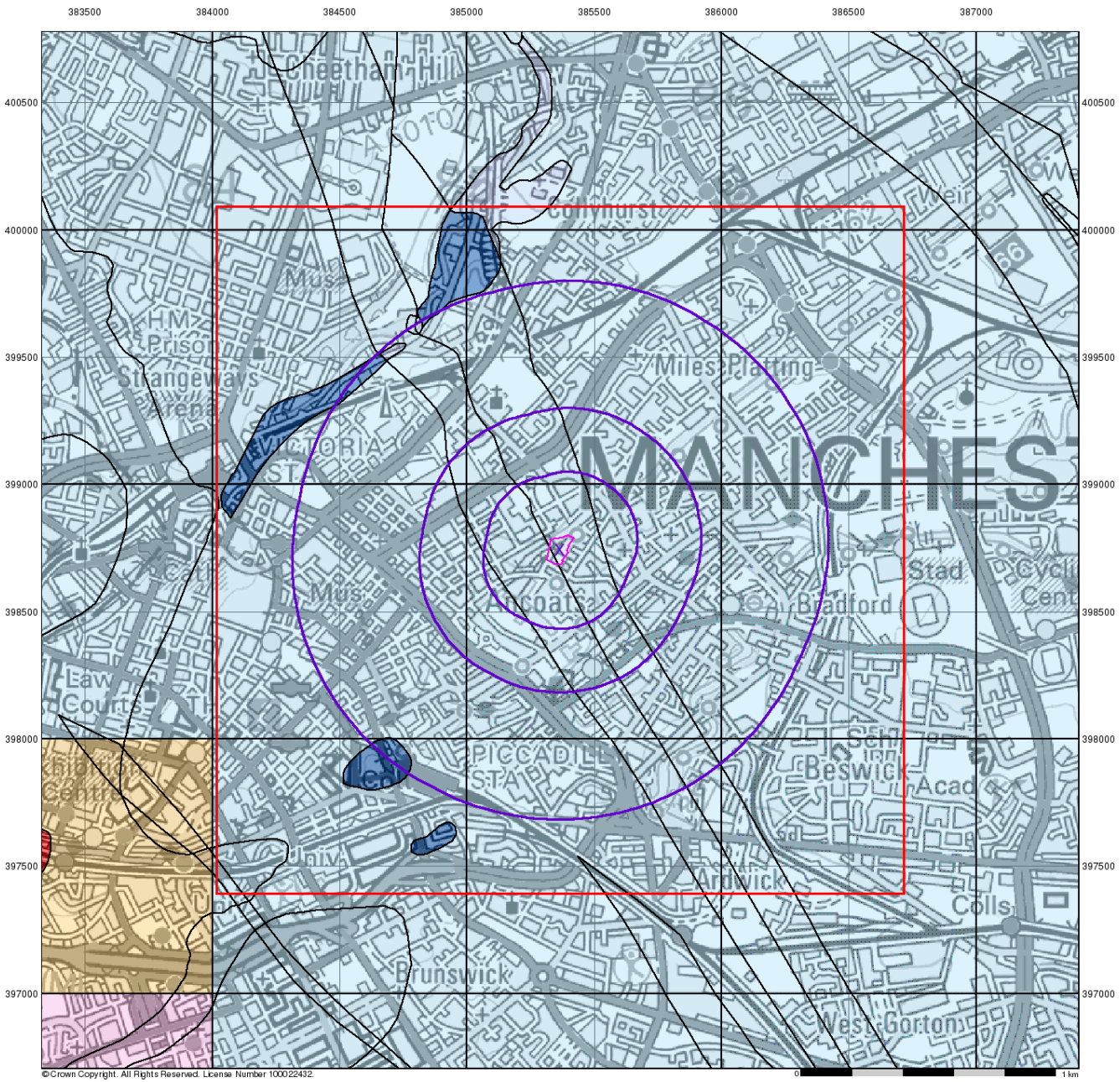
SIGNED (electronically)

C. R. Carley JP MSc CEng MICE - Consultant

APPROVED (electronically)

D. J. Middleton BEng (Hons) CEng MIStructE – Principal

APPENDIX 1 – GROUNDWATER VULNERABILITY MAPS



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Groundwater Vulnerability

General

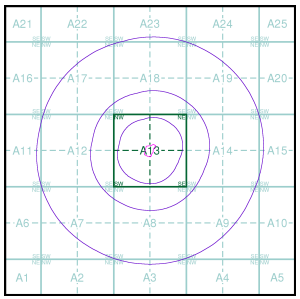
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer
Soluble Rock

Site Sensitivity Context Map - Slice A



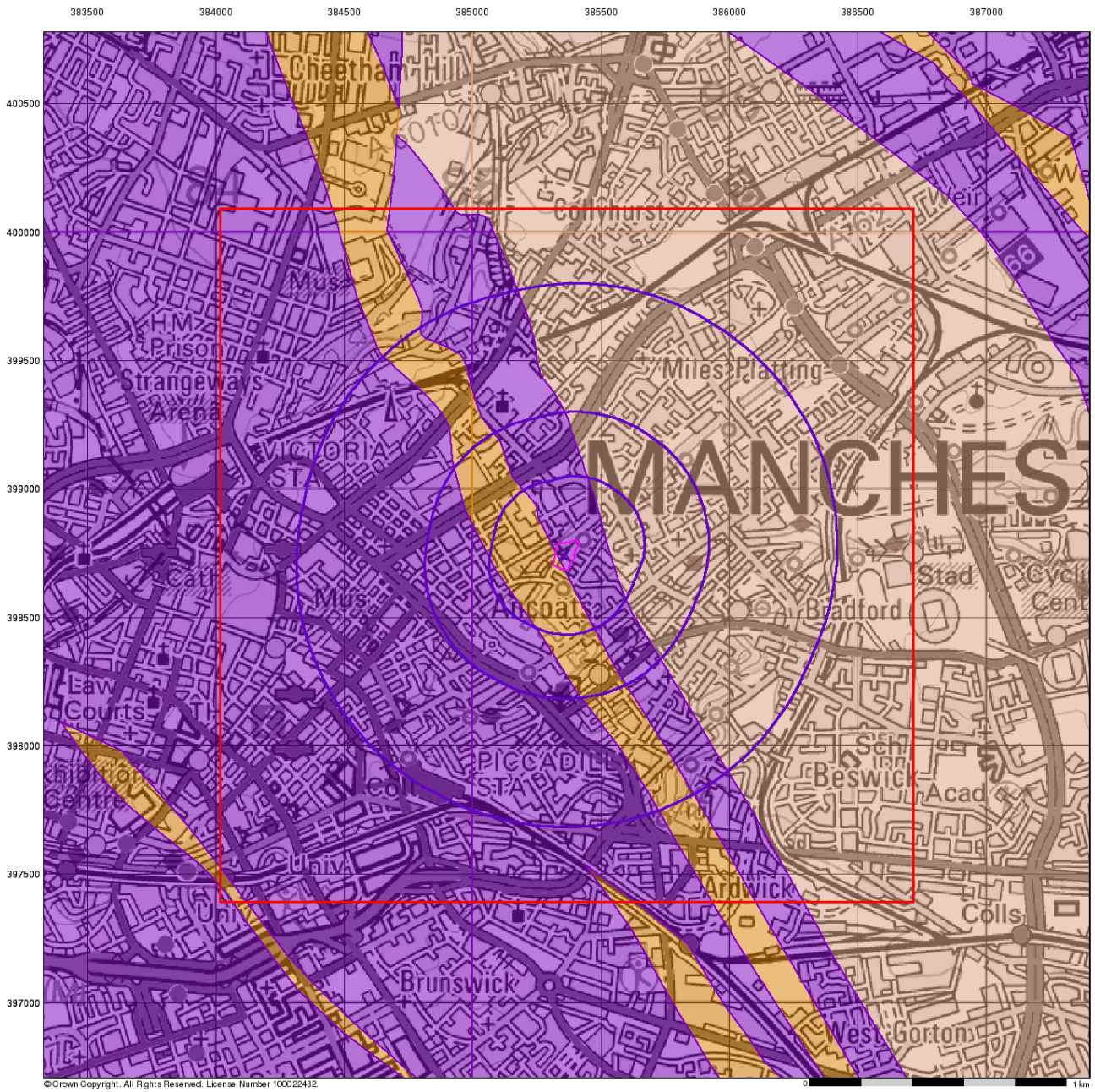
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Customer Ref:	12490
National Grid Reference:	385370, 398740
Slice:	A
Site Area (Ha):	0.74
Search Buffer (m):	1000

Site Details

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Bedrock Aquifer Designation

General

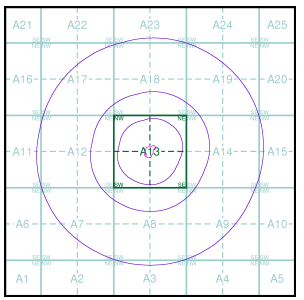
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



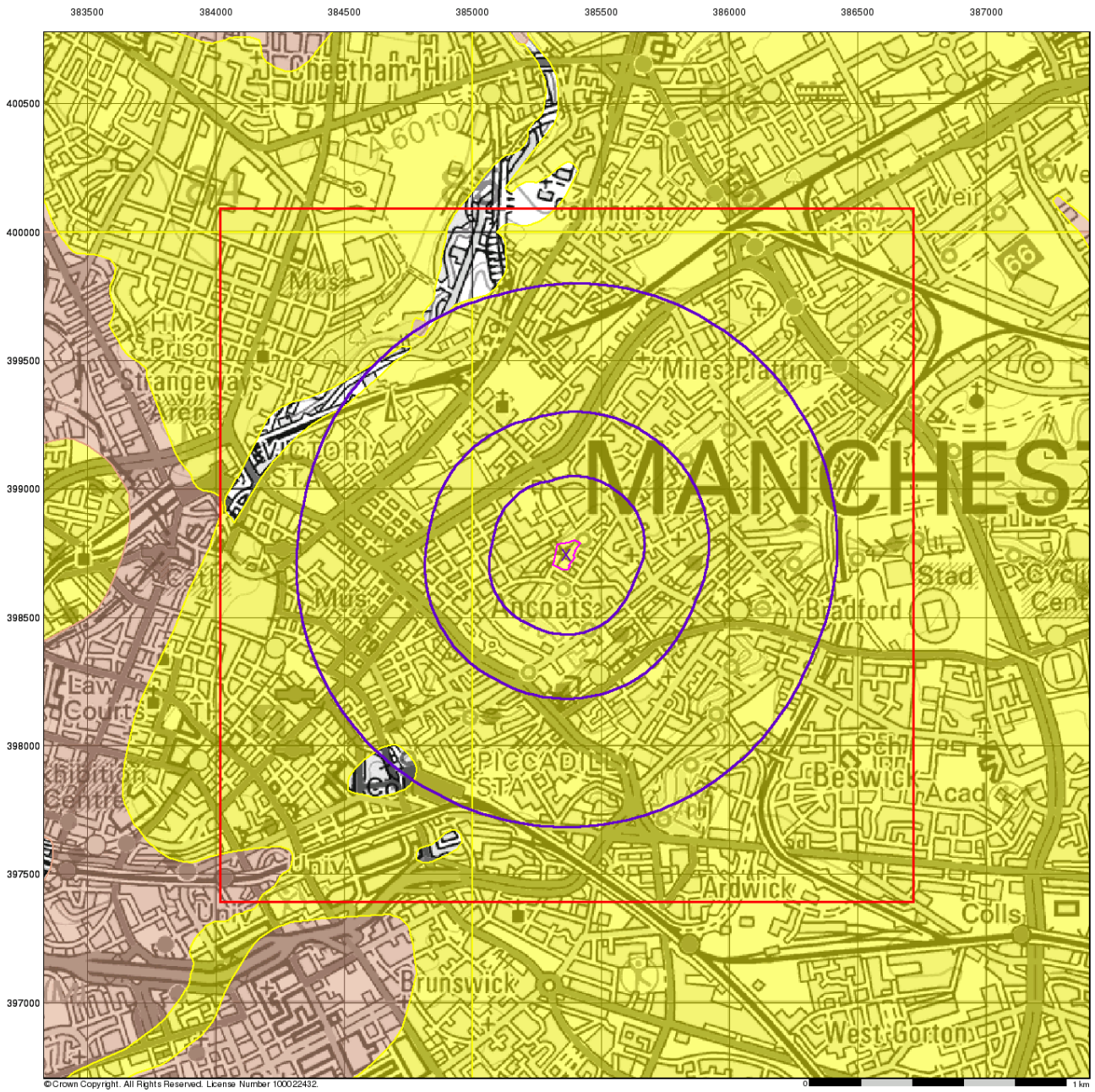
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Superficial Aquifer Designation

General

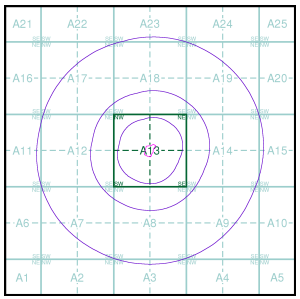
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

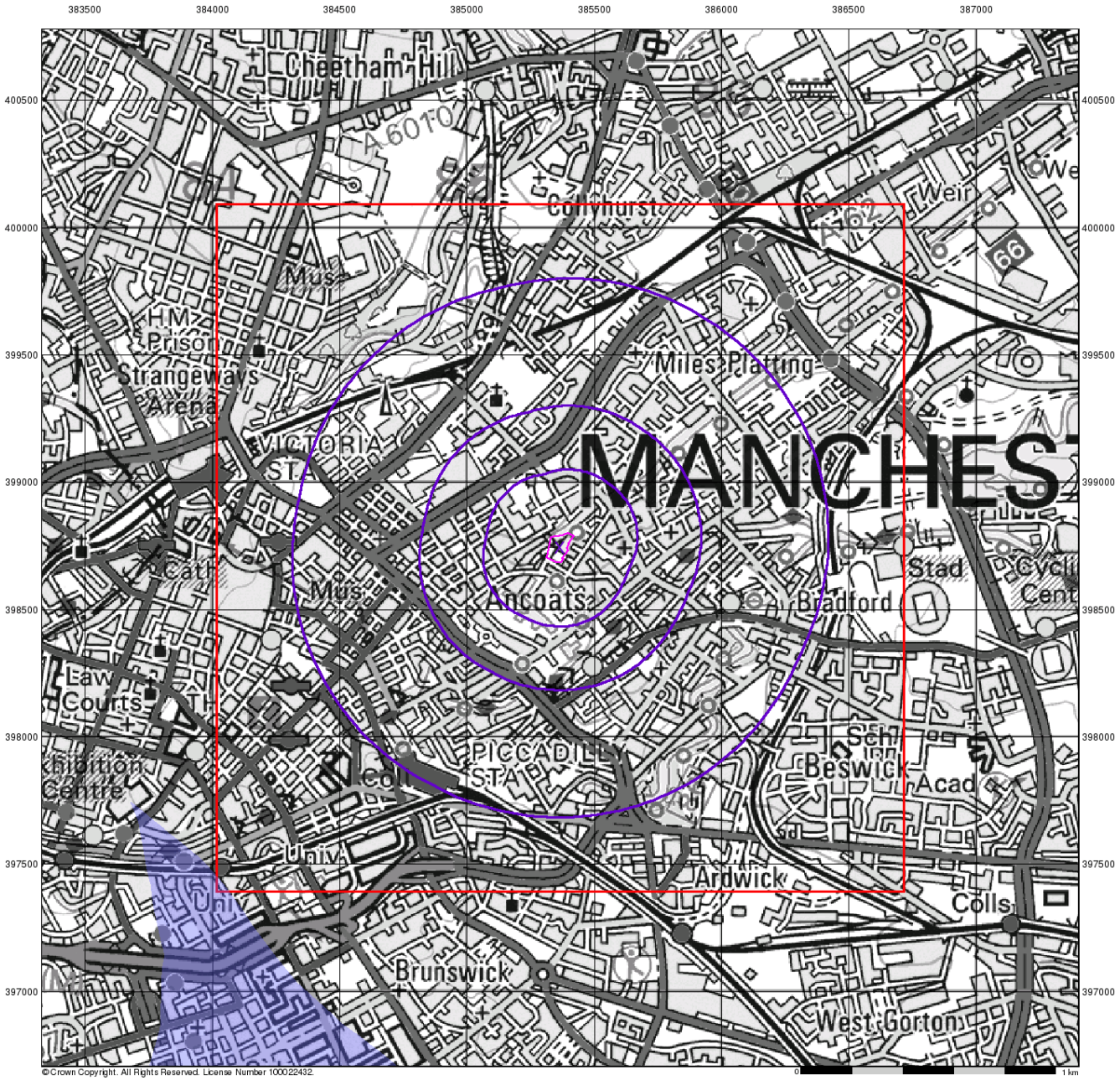
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Source Protection Zones

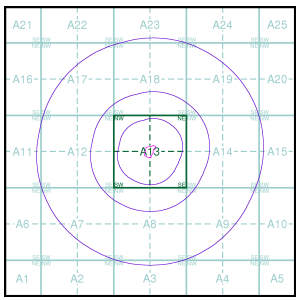
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



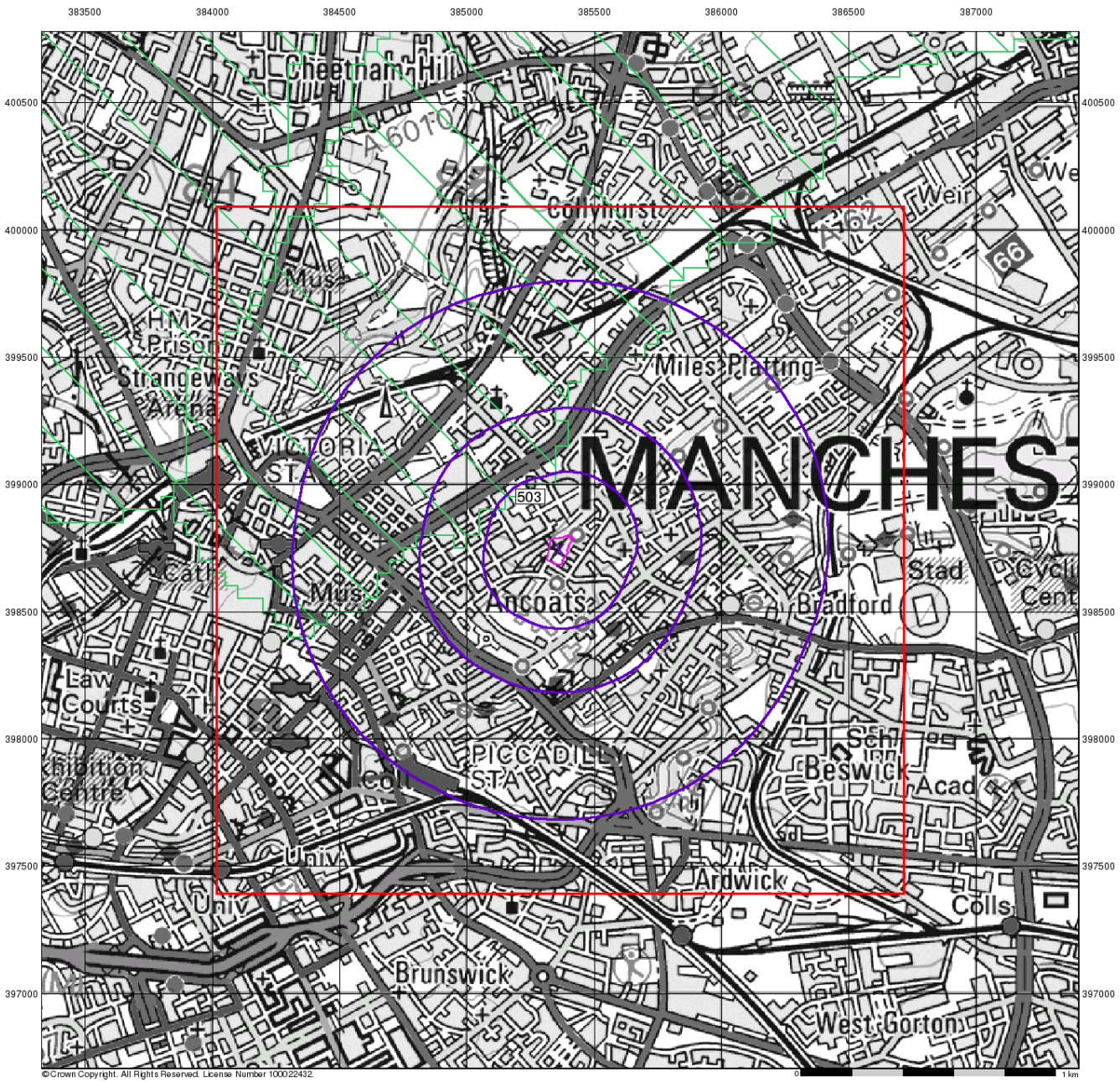
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Site Area (Ha):	0.74
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Sensitive Land Uses

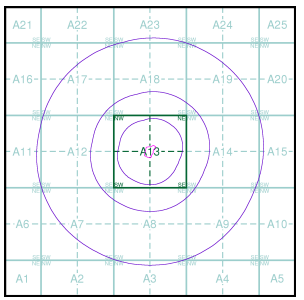
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



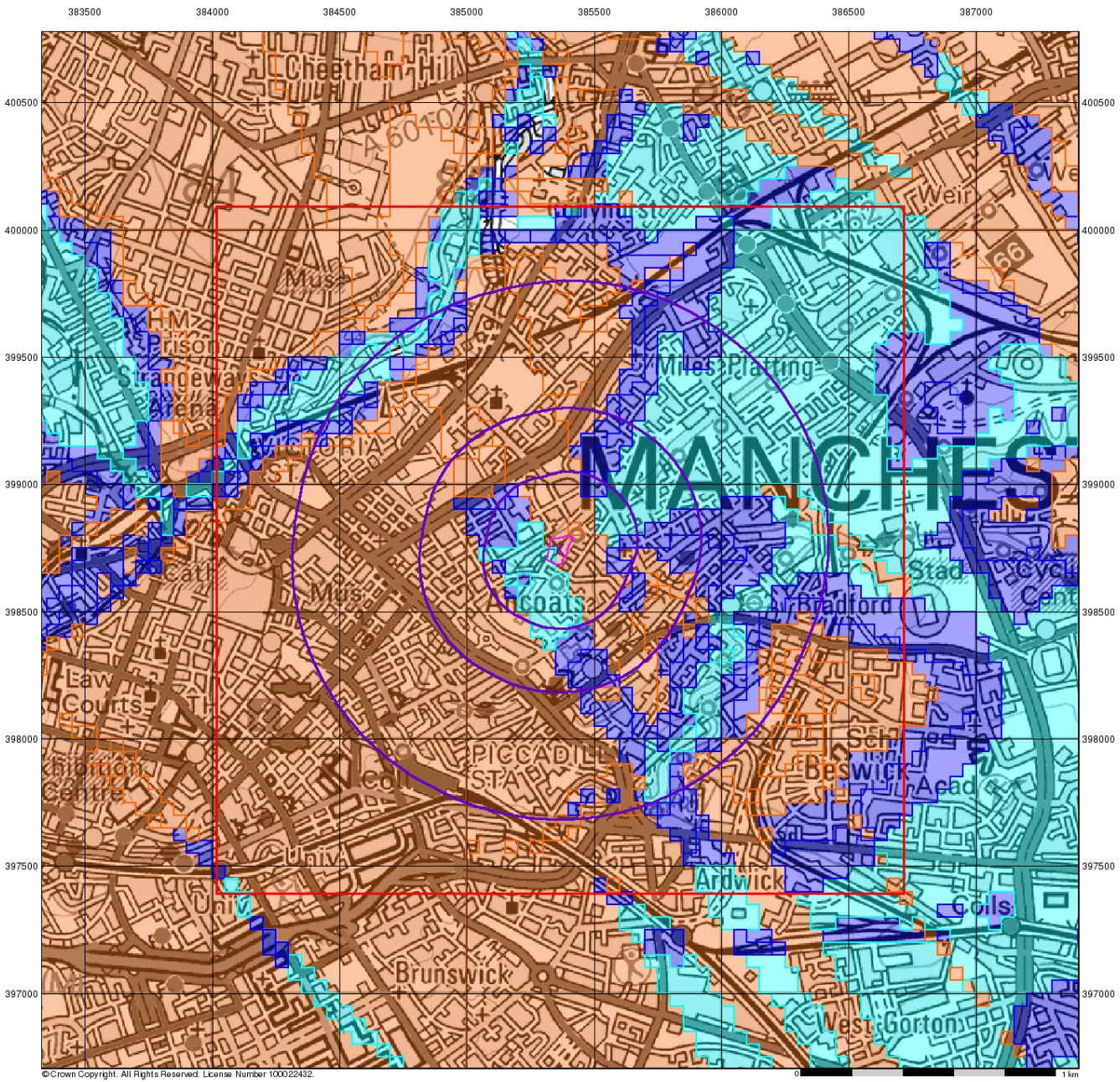
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BGS Flood GFS Data

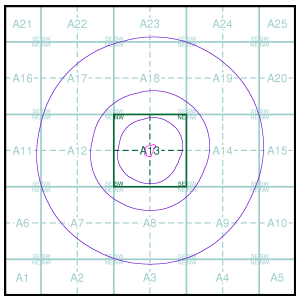
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	219300294_1_1
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Slice:	A
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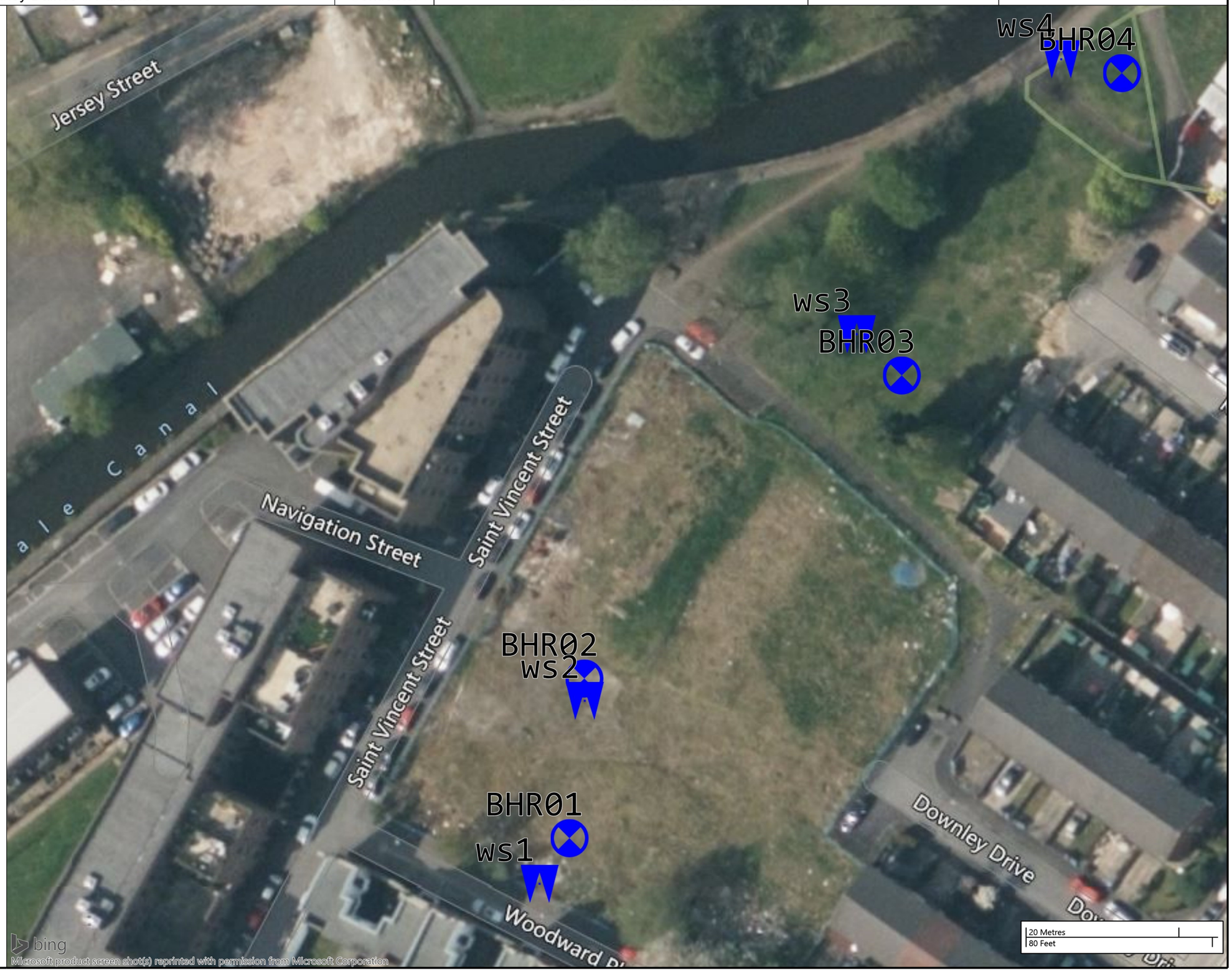
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APPENDIX 2 – FURTHER INVESTIGATIONS LOCATION PLAN

Project ID:	G231655	Title	Site Plan
Project Title:	Downley Drive, Manchester	Scale	1:500
Location:	Downley Drive, New Islington, Manchester, Greater Manchester, M4 7JU	Engineer	JSW
Client:	Carley Daines & Partners	Contractor	Strata Geotechnics

Legend Key

- Locations By Type - Empty
- Locations By Type - WS
- Locations By Type - RC



APPENDIX 3 – STRATA GEOTECHNICS FACTUAL REPORT & BOREHOLE LOGS

Factual Ground Investigation Report

Downley Drive

Client: Carley Daines & Partners Ltd

Project Number: G231655

Date of Issue: 16/01/2024

Project Title	Downley Drive			Project Ref		G231655
Prepared By	Shannon Wade BSc (hons) FGS, Geotechnical Engineer					
Checked By	Jono Wright MEng, Senior Engineering Manager					
Approved By	David Buckley CEng, Divisional Director					
Issue No	Status	Reason	Date	Prep.	Check	Approval
001	DRAFT	Awaiting Client Comment	16/01/24	SW	JW	DB

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1 Introduction

1.1 Appointment

Strata Geotechnics was appointed to undertake a ground investigation at the Downley Drive site in Manchester by Carley Daines & Partners Ltd. The specification for the works was provided by the client. Instruction to proceed with the work was received November 2023.

This report presents a site-wide factual account of the site works undertaken.

1.2 Site Location and Description

The site is located at the west end of Downley Drive in the Ancoats / New Islington area of Manchester the site is located at central grid reference – 385345, 398731.

At the time of the investigation the site was currently unoccupied and is split by a path from Downley Drive to the Rochdale Canal. Previous development included industrial and commercial usage with housing to the Southern end of the site. The surrounding area is residential and commercial properties with industrial land use to the West.

1.3 Purpose of Investigation

The purpose of this investigation was to determine the subsurface ground and groundwater conditions at the site of the proposed domestic development. This information was obtained from a combination of intrusive investigation techniques and laboratory testing.

1.4 Scope of the Investigation

The Ground Investigation was carried out between 04/12/2023 and 07/12/2023. The works comprised:

- 4 no. rotary open holes (denoted BHR01 to BHR04) to a maximum depth ranging from 15.72m to 17.20m BGL as specified by the client.

The works were undertaken as detailed by specification: Ref: 19-B-12490/Downley Drive provided by Carley Daines & Partners Ltd

1.4.1 In-situ testing

1.4.1.1 Standard Penetration Tests (SPTs)

In-situ Standard Penetration Tests (SPTs) were conducted within the boreholes to ascertain 'N' values of the various lithologies encountered. This test acts as a proxy to ascertain the relative density of granular material. Relative density is determined in accordance with BS5930 table 10 for granular materials only. For fine grained or cohesive deposits consistency has been derived by hand field tests carried out by the logging engineer rather than from SPT results. SPT 'N' values detailed in this report have not been corrected for overburden pressure or hammer energy efficiency.

1.4.2 Service Clearance

Before any intrusive works, all the locations were scanned utilising a CAT (Cable Avoidance Tool) and associated generator by the main contractor using electromagnetic (CAT) methods. As a final precaution a hand inspection pit was dug to 1.20m bgl for every borehole location, while trial pits were scanned at 300mm intervals up to and including 1.20m bgl.

1.4.3 Sampling Provision

During the investigation Standard Penetration Tests (SPT's) were undertaken and samples recovered. Rotary core was recovered only in BHRO1. The exploratory hole logs are presented in Appendix A.

1.4.4 Laboratory testing

No laboratory testing was requested by the client.

2 Limitations of Study

Strata Geotechnics are a wholly owned subsidiary of Van Elle Limited (VEL).

This report is for the sole use and benefit of Carley Daines & Partners Ltd in accordance with their brief and should not be relied upon or used by other parties without explicit prior written agreement from VEL. VEL disclaim any responsibility to the client and others in respect of any matters outside the above scope.

The investigation has been carried out to our understanding of current legislation and best practice; designed to produce information adequate for the appraisal of potential site conditions in relation to the proposed future use of the site. This investigation generally adhered to the guidelines outlined in BS5930:2015+A1:2020, Code of Practice for Site Investigations. In regard to testing of soils, the investigation generally adheres to guidance outlined in BS1377:1990 to 2022 and Testing of Soils for Civil Engineering Purposes and BS EN 17892 where appropriate.

New information, legislation, local authority planning conditions or changes to best practice may necessitate further fieldworks and revision/reissue of the ground investigation report after the date of this report issue. Further assessment, investigation or construction activities over time may reveal conditions that were not found during the period of these investigations and, therefore, could not have been taken into account in the preparation of the report. VEL reserves the right to amend their conclusions and recommendations in the light of further information that may become available.

Interpretation and recommendations should not be assumed valid for either adjacent areas of land or alternative land uses. Should the proposed site use change, the findings of this report should be re-assessed for the new end-use.

Intrusive investigations can only investigate ground beneath a small proportion of the total site area. Attention is drawn to the fact that the findings are based on data obtained from the borehole samples and in-situ testing. Where comments are made based on information obtained from third parties, VEL assumes that all third-party information is true and correct. No independent action has been undertaken to validate the findings of third-party information, unless specifically stated. The possibility of variation in ground conditions around the borehole should not be overlooked. As such these do not necessarily address all aspects of the ground behaviour on site. Any opinion or diagram of a possible configuration of strata beyond the borehole or extrapolated to greater depth is conjectural and given for guidance only, no responsibility is accepted as to its accuracy. No liability can be accepted for such variations.

This investigation was undertaken in good faith with regards to the request and requirements of Carley Daines & Partners Ltd at the time of quotation, it does not constitute a full interpretative report with regards to the geotechnical or environmental status of the site. There may be other sources of information not included in this report that hold data relevant to the site that could materially affect the conclusions made in this report.

Where applicable this report should be presented to the relevant statutory authority, planning body, or design engineers as soon as possible for their review, comment and/or acceptance.

It is possible therefore that the intrusive investigation undertaken by VEL, whilst fully appropriate, may not have encountered all significant subsurface conditions. Consequently, no liability can be accepted for conditions not revealed by the exploratory holes.

3 Results of the Ground Investigation

3.1 Published Ground Conditions

The published geological records available from the British Geological Survey indicates that the Site is underlain by Diamicton till deposits. The underlying solid bedrock geology is listed as the Manchester Marls Formation and the Collyhurst Sandstone Formation deposited 274-298.8 Ma.

3.2 Encountered Ground Conditions

Table 3-2 Summary of ground conditions encountered

Location	Strata Encountered	
	Made Ground Including hardstanding	**Diamicton Till** Soft to firm gravel and clay.
BHRO1	0.00 – 5.00	5.00 – 15.72
BHRO2	0.00 – 3.45	3.45 – 17.21
BHRO3	0.00 – 3.00	3.00 – 16.00
BHRO4	0.00 – 4.00	4.00 – 15.80

3.2.1 Made Ground

Made Ground was encountered from the surface at all exploratory locations. It was logged primarily as two main strata types. The first being a greyish brown and black sandy clayey gravel consisting of brick, quartzite, chert, sandstone, and mudstone. Slag was noted in BHRO3 only. Limestone was noted in BHRO3 and BHRO2.

The second main strata was logged as a soft greyish brown gravelly sandy clay. This clay was not present in BHRO3. The gravels consisted of primarily brick, chert, mudstone, quartzite and sandstone.

3.2.2 Diamicton Till

Immediately underlying the Made Ground very soft to stiff brown to yellowish brown gravelly clay. The gravels consisted of mudstone and sandstone. It was noted that mudstone effervesced with dilute hydrochloric acid. The lower boundary of this stratum was not proven within any of the locations due to poor recovery in bedrock the boundary was not discernible.

3.3 In-situ Tests

3.3.1 In-situ Standard Penetration Tests (SPT)

Standard penetration tests (SPT's) were carried out with the use of a normal solid cone or split spoon sampler in the solid deposits encountered within the boreholes in order to determine the relative strength / density of the materials tested. Where the full penetration depth could not be achieved, the bottom sampling depth is indicated as less than 0.45m from the top (start of test), with the actual depth of penetration being recorded in millimetres. The results are shown as 'N' values on the graphic borehole record sheets, these have not been corrected for hammer efficiency or over burden pressure. Where possible a disturbed sample was collected also.

A summary of SPT results by geological unit is presented below:

Table 3-3-1 SPT results by unit.

Strata	SPT Range ('N')	Notes
Made Ground	3 - 35	Indicative of variable conditions.
Diamicton Till	2 - >50	Indicative of variable conditions.

3.4 Groundwater

Below is a summary of groundwater encountered during the drilling works.

Table 3-4 Groundwater encountered.

Location	Depth groundwater was encountered (m BGL)	Water level after 20 minutes (m BGL)
BHRO1	5.00	5.00
BHRO2	5.00	5.00
BHRO3	6.00	6.00
BHRO4	5.00	5.00

Water strikes are detailed on the exploratory hole logs presented in Appendix A.

Changes in groundwater level may occur for a number of reasons, including seasonal effects and variations in drainage. The long term groundwater elevation may increase or decrease at some time in the future. Groundwater direction has not been determined as part of this report.

4 References

- British Geological Survey (BGS – formerly the Institute of Geological Sciences (IGS)) www.bgs.ac.uk and BGS Geoindex: http://mapapps2.bgs.ac.uk/geoindex/home.html.
- BS 5930:2015 A1 - 2020 Code of Practice for Site Investigations.
- BS EN ISO 14688 Identification, Description and classification of soils
- BS EN ISO 14689 Identification, Description and classification of rocks
- BS1377:1990-2022, Methods for Testing of Soils for Civil Engineering Purposes.
- BS EN ISO 17892, Geotechnical investigation and testing. Laboratory testing of soil
- BS 8574:2014- Geotechnical Data Management
- Soil and Rock Description in Engineering Practice, D. Norbury.
- BRE SD1:2005 Concrete in aggressive ground
- BS EN ISO 22282:1:2012 Geotechnical investigation and testing — Geohydraulic testing

APPENDICES

Appendix A: Exploratory Hole Location Plan (Proposed Locations)

Project ID:	G231655	Title	Site Plan - Proposed Locations
Project Title:	Downley Drive, Manchester	Scale	1:1000
Location:	Downley Drive, New Islington, Manchester, Greater Manchester, M4 7JU	Engineer	JW
Client:	Carley Daines & Partners	Contractor	Strata Geotechnics

Legend Key

- Locations By Type - Empty
- Locations By Type - RC



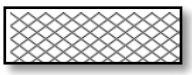
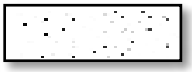
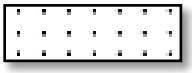
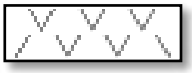
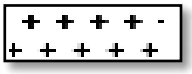
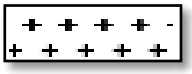
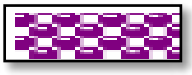
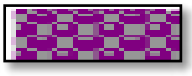
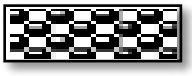
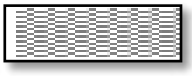
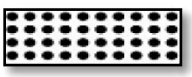
Appendix B: Exploratory Hole Records

Legends:

U	Undisturbed driven tube sample, 100mm nominal diameter unless noted
UT	Undisturbed thin wall tube sample, 100mm nominal diameter unless noted
P	Undisturbed pushed piston sample, 100mm nominal diameter unless noted
CBR	CBR mould sample
BLK	Block sample
D	Small disturbed sample
B	Disturbed bulk sample
SD	Standard Penetration Test liner sample
ES	Soil sample for environmental testing
W	Water sample
L	Liner, dynamic/windowless sample
C	Core sample
CSS	Core sub sample

	Test results
N (S)	Standard penetration test, split spoon sampler (uncorrected)
N (C)	Standard penetration test, solid cone (uncorrected)
K	Field permeability test, kFH indicates falling head, kPI indicates packer injection
HV	Hand vane test [peak/residual], kPa, Undrained Shear Strength
I_a or I_d	Point load strength quoted for axial (a) and diameter (d), MPa Point Load Index
PP	Pocket Penetrometer, kPa, Unconfined Compressive Strength
LMP	Lump sample for laboratory testing
Non-Intact	Core recovered in sections less than one full diameter without signs of weathering

Soil, Rock and Backfill Legends:

Topsoil		**MADE GROUND**	
Concrete		**Bituminous Material**	
Clay		**Silt**	
Sand		**Gravel**	
Cobbles		**Peat**	
Sandstone		**Mudstone**	
Siltstone		**Coal**	
Breccia		**Fine grained Igneous**	
Limestone		**Medium grained Igneous**	
Conglomerate		**Coarse grained Igneous**	
Clean Ballast		**Fine grained Metamorphic**	
Slightly dirty Ballast		**Medium grained Metamorphic**	
Dirty Ballast		**Coarse grained Metamorphic**	
Broken Ground		**No Recovery**	
Cement Bentonite		**Bentonite**	
Arisings		**Grout**	

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR01
	Contract Number: G231655	Date Started: 04/12/2023	Date Completed: 05/12/2023	Logged: OM/RS	Checked: SW	Status: DRAFT — Sheet 1 of 2
Rotary Core Drilling Log	Easting: 385340.9	Northing: 398703.0	Ground Level:	Plant Used: Comacchio 305	Print Date: 16/01/2024	Scale: 1:50
Weather: Variable	Rig Crew: Ian Mountain	Termination: Target Depth		SPT Hammer: AR666 Energy Ratio: 65%		

Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.70	B1							(0.70)		MADE GROUND: Greyish brown very clayey slightly sandy subangular to rounded, fine to coarse GRAVEL of mudstone, sandstone, brick, and quartzite. Sand is fine to coarse. *0.00 - 0.70: Occasional wood and plastic fragments.*		
0.70 - 1.20	B2							0.70 (0.50)		MADE GROUND: Dark brown slightly sandy gravelly CLAY. Gravel is fine to coarse of sandstone, brick and mudstone. Sand is fine to coarse.		
1.20 - 1.65	D3	SPT(S) 1.20m, N=3 (1,0/1,0,1,1)						1.20		MADE GROUND: Soft brown locally mottled grey slightly gravelly slightly sandy CLAY. Sand is fine to medium. Gravel is angular to subangular, fine to medium of mudstone, brick, and coal (Logged from Disturbed SPT samples).		
2.00 - 2.45	D4	SPT(S) 2.00m, N=6 (1,1/1,2,1,2)						(1.80)				
3.00 - 3.45	D5	SPT(S) 3.00m, N=18 (4,4/4,4,4,6)						3.00		MADE GROUND: Firm brown slightly gravelly CLAY. Gravel is angular to subangular fine of mudstone, brick and coal (Logged from Disturbed SPT samples).		
4.00 - 4.45	D6	SPT(S) 4.00m, N=15 (2,3/3,3,4,5)						(2.00)				
5.00 - 5.45	D7	SPT(S) 5.00m, N=19 (3,3/3,4,6,6)						5.00		Firm brown slightly gravelly CLAY. Gravel is subrounded to rounded, medium to coarse of mudstone (Logged from Disturbed SPT samples).	▼	
6.50 - 6.95	D8	SPT(S) 6.50m, N=25 (4,5/5,6,6,8)						(1.95)		*6.50: Becomes slightly gravelly.*		
8.00 - 8.45	D9	SPT(S) 8.00m, N=38 (5,5/7,9,9,13)						6.95 (2.55)		Firm dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse of calcareous mudstone (Logged from Disturbed SPT samples).		
9.50 - 9.72	D10	SPT(S) 9.50m, 50 (25 for 100mm/50 for 117mm)						9.50	NR NR N NR NR NR NR N NR NR	NO RECOVERY: Inferred as firm dark brown CLAY. Driller notes normal drilling and clay.		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
04-12-23	07:30	0.00	0.00	
04-12-23	16:30	14.27	7.50	5.00
05-12-23	07:30	10.00	7.50	5.00
05-12-23	11:30	15.72	7.50	

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	9.50	90	90	Air/ Mist	grey
9.50	11.00	80	80	Air/ Mist	grey
11.00	12.50	80	80	Air/ Mist	grey

Borehole Diameter

Depth (m)	Dia (mm)
9.50	125
14.00	121

Casing Diameter

Depth (m)	Dia (mm)
7.50	150

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
9.50	11.00	87	PWF
11.00	12.50	87	
12.50	14.00	87	

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 9.50m, rotary core follow on to 15.72m. Waterstrike encountered at 5.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as proposed, inferred from OS mapping.

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00	5.00		20	5.00	Medium

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

DRAFT

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR01
	Contract Number: G231655	Date Started: 04/12/2023	Date Completed: 05/12/2023	Logged: OM/RS	Checked: SW	Status: DRAFT
Rotary Core Drilling Log	Easting: 385340.9	Northing: 398703.0	Ground Level:	Plant Used: Comacchio 305	Print Date: 16/01/2024	Scale: 1:50
Weather: Variable	Rig Crew: Ian Mountain	Termination: Target Depth		SPT Hammer: AR666 Energy Ratio: 65%		Sheet 2 of 2

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
9.50 - 11.00			0					(1.50)	NR NR N NR NR NR NR N NR NR NR NR N NR NR			
11.00 - 11.38	D11	SPT(S) 11.00m, 50 (10,10/50 for 225mm)						11.00		Firm dark brown CLAY (Logged from Disturbed SPT samples).		
11.00 - 12.50			0					(1.50)				
12.50 - 12.84	D12	SPT(S) 12.50m, 50 (22 for 125mm/50 for 215mm)						12.50	NR NR NR NR N NR NR	No Recovery: Inferred as firm becoming stiff dark brown CLAY. Driller notes normal drilling and clay.		
								(0.57)		*12.50 - 13.07: Rare lenses of light brown fine to coarse sand >5x10x20mm.*		
								13.07	NR NR N NR NR			
12.50 - 14.00	C13 C17 C18		67							Stiff to very stiff brown thinly laminated CLAY.		
14.00 - 14.27	D14	SPT(S) 14.00m, 50 (25 for 110mm/50 for 155mm)						(2.43)				
14.00 - 15.50	C19 C15 C20		93									
15.50 - 15.72	D16	SPT(S) 15.50m, 48 (25 for 100mm/48 for 119mm)						15.50		Firm brown slightly gravelly CLAY. Gravel is rounded to subrounded, fine to medium of quartzite (Logged from Disturbed SPT samples).		
								15.72		End of Borehole at 15.72m		

DRAFT

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour
12.50	14.00	90	90	Air/ Mist	grey
14.00	15.50	90	90	Air/ Mist	red

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type
9.50	11.00	87	PWF
11.00	12.50	87	
12.50	14.00	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR02
	Contract Number: G231655	Date Started: 05/12/2023	Date Completed: 06/12/2023	Logged: OM	Checked: SW	Status: DRAFT — Sheet 1 of 2
Rotary Core Drilling Log	Easting: 385342.9	Northing: 398723.9	Ground Level:	Plant Used: Comacchio 305	Print Date: 16/01/2024	Scale: 1:50
Weather: Overcast	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%		

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.50	D1									MADE GROUND: Soft greyish brown mottled black slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of red brick, mortar, concrete, mudstone, and quartzite. *0.00 - 1.20: Occasional rootlets >40mm. Rare metal and glass fragments. Low cobble content of red brick.*		
0.50 - 1.20	B2							(1.20)				
1.20 - 1.65	D3	SPT(S) 1.20m, N=5 (1,1/1,1,1,2)						1.20		MADE GROUND: Brown subangular to subrounded, fine to medium GRAVEL of brick and sandstone (Logged from Disturbed SPT samples).		
								(0.80)				
2.00 - 2.45	D4	SPT(S) 2.00m, N=4 (2,2/1,1,1,1)						2.00		MADE GROUND: Loose brown slightly clayey becoming clayey subangular to subrounded, fine to medium GRAVEL of brick, mortar, and sandstone (Logged from Disturbed SPT samples).		
								(1.30)				
3.00 - 3.45	D5	SPT(S) 3.00m, N=11 (2,2/2,3,3,3)								*3.00: Becomes clayey.*		
								3.30		Firm locally soft brown slightly sandy CLAY. Sand is fine to coarse (Logged from Disturbed SPT samples). *3.45: Lenses of sand >1mm. Traces of coal <2mm.*		
4.00 - 4.45	D6	SPT(S) 4.00m, N=13 (2,3/3,3,3,4)										
								(2.70)				
5.00 - 5.45	D7	SPT(S) 5.00m, N=18 (3,3/4,4,5,5)								*5.00 - 5.45: Locally soft.*		
								6.00		Soft to firm brown slightly gravelly CLAY. Gravel is angular to subangular, fine to coarse of mudstone (Logged from Disturbed SPT samples).		
								(1.20)				
								7.20		Dense dark reddish brown SAND and GRAVEL. Sand is medium. Gravel is subangular to rounded, fine to medium of calcareous mudstone and quartzite (Logged from Disturbed SPT samples).		
8.00 - 8.45	D9	SPT(S) 8.00m, N=38 (5,5/7,9,10,12)										
								(2.30)				
8.00 - 9.50			0									
9.50 - 9.95	D10	SPT(S) 9.50m, N=45 (6,8/10,12,10,13)						9.50		Dense brown gravelly SAND. Sand is fine to coarse. Gravel is fine of mudstone (Logged from Disturbed SPT samples).		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
05-12-23	17:20	13.95	7.50	5.00
06-12-23	07:40	13.50	7.50	5.00

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	8.00	85	80	Air/ Mist	brown
8.00	9.50	80	80	Air/ Mist	red
9.50	11.00	90	90	Air/ Mist	red

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 8.00m, rotary core follow on to 17.21m. Waterstrike encountered at 5.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as proposed, inferred from OS mapping.

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00	4.50		20	5.00	Medium

Borehole Diameter

Depth (m)	Dia (mm)
15.00	121
17.00	125

Casing Diameter

Depth (m)	Dia (mm)
	150

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	
11.00	13.50	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

DRAFT

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester	Client: Carley Daines & Partners		Borehole ID: BHR02
	Contract Number: G231655	Date Started: 05/12/2023	Date Completed: 06/12/2023	Logged: OM / Checked: SW / Status: DRAFT — Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385342.9	Northing: 398723.9	Ground Level:	Plant Used: Comacchio 305 / Print Date: 16/01/2024 / Scale: 1:50
Weather: Overcast	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
9.50 - 11.00			0									
		SPT(S) 11.00m, 50 (25 for 130mm/50 for 275mm)						(4.00)				
11.00 - 13.50			0									
13.50 - 13.95	D11	SPT(S) 13.50m, N=49 (6,10/9,9,13,18)						13.50		Very stiff brown slightly sandy becoming sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded, fine to medium of mudstone, and quartzite (Logged from Disturbed SPT samples).		
13.50 - 15.00			0					(1.50)				
15.00 - 15.22	D12	SPT(S) 15.00m, 50 (25 for 95mm/50 for 126mm)						15.00		Very dense dark reddish brown clayey slightly gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded, fine of mudstone, and quartzite (Logged from Disturbed SPT samples). *15.00 - 15.22: Becomes sandy.*		
								(2.21)				
		SPT(S) 17.00m, 50 (25 for 117mm/50 for 88mm)						17.21		End of Borehole at 17.21m		

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Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
11.00	13.50	70	70	Air/ Mist	red
13.50	15.00	75	75	Air/ Mist	red
15.00	17.00	50	50	Air/ Mist	red

Remarks:

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Casing Diameter

Depth (m)	Dia (mm)

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	
11.00	13.50	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR03
	Contract Number: G231655	Date Started: 06/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: DRAFT
Rotary Core Drilling Log	Easting: 385384.9	Northing: 398763.6	Ground Level:	Plant Used: Comacchio 305	Print Date: 16/01/2024	Scale: 1:50
Weather: Rain	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%		Sheet 1 of 2

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.60	B1							(1.20)		MADE GROUND: Medium dense brown sandy becoming very sandy subangular to rounded fine to coarse GRAVEL of sandstone, mudstone, limestone, quartzite and brick. Sand is fine to coarse. *0.60: Becomes very sandy.*		
0.60 - 1.20	B2											
								1.20		MADE GROUND: Medium dense grey angular to subangular fine to coarse GRAVEL of limstone, brick and slag (Logged from Disturbed SPT samples).		
2.00 - 2.45	D3	SPT(S) 2.00m, N=28 (4,4/6,6,7,9)						(1.80)				
3.00 - 3.45	D4	SPT(S) 3.00m, N=23 (3,5/5,5,6,7)						3.00		Medium dense grey slightly sandy GRAVEL. Sand is medium to coarse. Gravel is angular to subangular, fine to coarse of calcareous mudstone and quartzite (Logged from Disturbed SPT samples).		
								(1.00)				
4.00 - 4.45	D5	SPT(S) 4.00m, N=2 (1,0/1,0,1,0)						4.00		Soft grey becoming yellowish brown mottled grey CLAY (Logged from Disturbed SPT samples).		
5.00 - 5.45	D6	SPT(S) 5.00m, N=34 (6,6/8,8,8,10)						(2.50)				
6.50 - 6.95	D7	SPT(S) 6.50m, N=40 (7,9/9,10,10,11)						6.50		Stiff brown gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of mudstone (Logged from Disturbed SPT samples).		
8.00 - 8.45	D8	SPT(S) 8.00m, N=48 (8,10/11,12,12,13)								*8.00 - 8.45: Rare lenses of sand >2mm.*		
8.00 - 9.50			0									
9.50 - 9.73	D9	SPT(S) 9.50m, 50 (25 for 77mm/50 for 149mm)										

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Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
06-12-23	17:00	16.16	6.00	6.00
07-12-23	07:30	17.00	6.00	6.00

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	3.00	100	100	Air/ Mist	grey
3.00	5.00	80	80	Air/ Mist	red
5.00	9.50	90	90	Air/ Mist	brown

Borehole Diameter

Depth (m)	Dia (mm)
11.50	121
16.00	125

Casing Diameter

Depth (m)	Dia (mm)

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 8.00m, rotary core follow on to 11.00m, followed by open hole drilling to 16.70m. Waterstrike encountered at 6.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
6.00	6.00		20	6.00	Medium

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners				Borehole ID: BHR03
	Contract Number: G231655	Date Started: 06/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: DRAFT	Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385384.9	Northing: 398763.6	Ground Level:	Plant Used: Comacchio 305		Print Date: 16/01/2024	Scale: 1:50
Weather: Rain	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%			

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
9.50 - 11.00			0									
11.00 - 11.18	D10	SPT(S) 11.00m, 50 (25 for 96mm/50 for 87mm)										
		SPT(S) 12.50m, 50 (25 for 91mm/50 for 109mm)						(9.66)				
		SPT(S) 14.00m, 50 (25 for 81mm/50 for 230mm)										
		SPT(S) 16.00m, 50 (25 for 79mm/50 for 86mm)						16.16		End of Borehole at 16.16m		

DRAFT

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour
9.50	11.00	60	60	Air/ Mist	red
11.00	12.50	90	90	Air/ Mist	red
12.50	16.00	80	80	Air/ Mist	red

Remarks:

proposed, inferred from OS mapping.

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR04
	Contract Number: G231655	Date Started: 07/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: DRAFT
Rotary Core Drilling Log	Easting: 385414.0	Northing: 398803.2	Ground Level:	Plant Used: Comacchio 305	Print Date: 16/01/2024	Scale: 1:50
Weather: Showers	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%		Sheet 1 of 2

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.65	B1							(0.60)		MADE GROUND: Brown very clayey subangular to subrounded fine to coarse GRAVEL of brick, limestone, and concrete.		
0.60 - 1.20	B2							0.60		MADE GROUND: Soft brown very gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of brick, limestone, concrete and mudstone (Partially logged from Disturbed SPT samples).		
1.20 - 1.65	D3	SPT(S) 1.20m, N=5 (1,1/0,1,2,2)						(0.80)				
								1.40		MADE GROUND: Soft dark brown slightly sandy CLAY. Sand is fine to coarse (Logged from Disturbed SPT samples).		
								(0.50)		*1.40 - 1.65: >40mm band of green fine to medium sand.*		
2.00 - 2.45	D4	SPT(S) 2.00m, N=10 (2,1/2,2,2,4)						1.90		MADE GROUND: Soft brown slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone, quartzite, and concrete.		
3.00 - 3.30	D5	SPT(S) 3.00m, N=8 (1 for 1mm/0,2,3,3)						(2.10)				
4.00 - 4.45	D6	SPT(S) 4.00m, N=35 (1,2/24,3,4,4)						4.00		Soft brown slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone and coal (Logged from Disturbed SPT samples).		
5.00 - 5.45	D7	SPT(S) 5.00m, N=12 (2,3/2,3,3,4)								*5.00 - 5.45: Absence of gravels. Traces of coal >2mm.*	▼	
								(4.00)				
6.50 - 6.95	D8	SPT(S) 6.50m, N=24 (3,5/6,5,6,7)										
8.00 - 8.45	D9	SPT(S) 8.00m, N=37 (6,9/9,9,10,9)						8.00		Firm brown CLAY (Logged from Disturbed SPT samples).		
								(1.50)				
9.50 - 9.87	D10	SPT(S) 9.50m, 50 (8,14/50 for 224mm)						9.50		Soft reddish brown very sandy CLAY. Sand is fine to coarse (Logged from Disturbed SPT samples).		
								(0.37)				
								9.87	NR NR	No Recovery: Driller notes normal drilling and sand		

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Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
07-12-23	08:00			
07-12-23	16:00	0.00		

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	2.00	90	90	Air/ Mist	black
2.00	3.00	90	90	Air/ Mist	grey
3.00	4.00	90	90	Air/ Mist	grey

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 15.80m. Waterstrike encountered at 5.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as proposed, inferred from OS mapping.

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00	5.00		20	5.00	Medium

Borehole Diameter

Depth (m)	Dia (mm)
15.50	125

Casing Diameter

Depth (m)	Dia (mm)
7.50	150

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners				Borehole ID: BHR04
	Contract Number: G231655	Date Started: 07/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: DRAFT	Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385414.0	Northing: 398803.2	Ground Level:	Plant Used: Comacchio 305		Print Date: 16/01/2024	Scale: 1:50
Weather: Showers	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%			

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
		SPT(S) 11.00m, 50 (25 for 89mm/50 for 147mm)							NR NR N NR NR			
		SPT(S) 12.50m, 50 (25 for 135mm/50 for 227mm)						(5.93)	NR NR N NR NR			
		SPT(S) 14.00m, 50 (30 for 88mm/50 for 95mm)							NR NR N NR NR			
		SPT(S) 15.50m, 50 (25 for 81mm/50 for 219mm)						15.80	NR NR N NR NR	End of Borehole at 15.80m		

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour
4.00	5.00	80	80	Air/ Mist	brown
5.00	15.50	90	90	Air/ Mist	brown

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

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APPENDIX 4 – WINDOIW SAMPLE LOGS

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners		Borehole ID: BHR01
	Contract Number: G231655	Date Started: 04/12/2023	Date Completed: 05/12/2023	Logged: OM/RS / Checked: SW	Status: FINAL / Sheet 1 of 2
Rotary Core Drilling Log	Easting: 385340.9	Northing: 398703.0	Ground Level:	Plant Used: Comacchio 305	Print Date: 08/02/2024 / Scale: 1:50
Weather: Variable	Rig Crew: Ian Mountain	Termination: Target Depth		SPT Hammer: AR666 Energy Ratio: 65%	

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.70	B1							(0.70)		MADE GROUND: Greyish brown very clayey slightly sandy subangular to rounded, fine to coarse GRAVEL of mudstone, sandstone, brick, and quartzite. Sand is fine to coarse. *0.00 - 0.70: Occasional wood and plastic fragments.*		
0.70 - 1.20	B2							0.70 (0.50)		MADE GROUND: Dark brown slightly sandy gravelly CLAY. Gravel is fine to coarse of sandstone, brick and mudstone. Sand is fine to coarse.		
1.20 - 1.65	D3	SPT(S) 1.20m, N=3 (1,0/1,0,1,1)						1.20		MADE GROUND: Soft brown locally mottled grey slightly gravelly slightly sandy CLAY. Sand is fine to medium. Gravel is angular to subangular, fine to medium of mudstone, brick, and coal (Logged from Disturbed SPT samples).		
2.00 - 2.45	D4	SPT(S) 2.00m, N=6 (1,1/1,2,1,2)						(1.80)				
3.00 - 3.45	D5	SPT(S) 3.00m, N=18 (4,4/4,4,4,6)						3.00		MADE GROUND: Firm brown slightly gravelly CLAY. Gravel is angular to subangular fine of mudstone, brick and coal (Logged from Disturbed SPT samples).		
4.00 - 4.45	D6	SPT(S) 4.00m, N=15 (2,3/3,3,4,5)						(2.00)				
5.00 - 5.45	D7	SPT(S) 5.00m, N=19 (3,3/3,4,6,6)						5.00		Firm brown slightly gravelly CLAY. Gravel is subrounded to rounded, medium to coarse of mudstone (Logged from Disturbed SPT samples).		
6.50 - 6.95	D8	SPT(S) 6.50m, N=25 (4,5/5,6,6,8)						(1.95)		*6.50: Becomes slightly gravelly.*		
8.00 - 8.45	D9	SPT(S) 8.00m, N=38 (5,5/7,9,9,13)						6.95 (2.55)		Firm dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse of calcareous mudstone (Logged from Disturbed SPT samples).		
9.50 - 9.72	D10	SPT(S) 9.50m, 50 (25 for 100mm/50 for 117mm)						9.50	NR NR N NR NR NR NR N NR NR	NO RECOVERY: Inferred as firm dark brown CLAY. Driller notes normal drilling and clay.		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
04-12-23	07:30	0.00	0.00	
04-12-23	16:30	14.27	7.50	5.00
05-12-23	07:30	10.00	7.50	5.00
05-12-23	11:30	15.72	7.50	

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	9.50	90	90	Air/ Mist	grey
9.50	11.00	80	80	Air/ Mist	grey
11.00	12.50	80	80	Air/ Mist	grey

Borehole Diameter

Depth (m)	Dia (mm)
9.50	125
14.00	121

Casing Diameter

Depth (m)	Dia (mm)
7.50	150

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
9.50	11.00	87	PWF
11.00	12.50	87	
12.50	14.00	87	

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 9.50m, rotary core follow on to 15.72m. Waterstrike encountered at 5.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as proposed, inferred from OS mapping.

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00	5.00		20	5.00	Medium

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners		Borehole ID: BHR01
	Contract Number: G231655	Date Started: 04/12/2023	Date Completed: 05/12/2023	Logged: OM/RS / Checked: SW	Status: FINAL / Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385340.9	Northing: 398703.0	Ground Level:	Plant Used: Comacchio 305	Print Date: 08/02/2024 / Scale: 1:50
Weather: Variable	Rig Crew: Ian Mountain	Termination: Target Depth		SPT Hammer: AR666 Energy Ratio: 65%	

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
9.50 - 11.00			0					(1.50)	NR NR N			
11.00 - 11.38	D11	SPT(S) 11.00m, 50 (10,10/50 for 225mm)						11.00		Firm dark brown CLAY (Logged from Disturbed SPT samples).		
11.00 - 12.50			0					(1.50)				
12.50 - 12.84	D12	SPT(S) 12.50m, 50 (22 for 125mm/50 for 215mm)						12.50	NR NR	No Recovery: Inferred as firm becoming stiff dark brown CLAY. Driller notes normal drilling and clay.		
								(0.57)	NR NR N	*12.50 - 13.07: Rare lenses of light brown fine to coarse sand >5x10x20mm.*		
								13.07	NR NR			
12.50 - 14.00	C13 C17 C18		67							Stiff to very stiff brown thinly laminated CLAY.		
14.00 - 14.27	D14	SPT(S) 14.00m, 50 (25 for 110mm/50 for 155mm)						(2.43)				
14.00 - 15.50	C19 C15 C20		93									
15.50 - 15.72	D16	SPT(S) 15.50m, 48 (25 for 100mm/48 for 119mm)						15.50		Firm brown slightly gravelly CLAY. Gravel is rounded to subrounded, fine to medium of quartzite (Logged from Disturbed SPT samples).		
								15.72		End of Borehole at 15.72m		

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour
12.50	14.00	90	90	Air/ Mist	grey
14.00	15.50	90	90	Air/ Mist	red

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type
9.50	11.00	87	PWF
11.00	12.50	87	
12.50	14.00	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR02
	Contract Number: G231655	Date Started: 05/12/2023	Date Completed: 06/12/2023	Logged: OM	Checked: SW	Status: FINAL — Sheet 1 of 2
Rotary Core Drilling Log	Easting: 385342.9	Northing: 398723.9	Ground Level:	Plant Used: Comacchio 305	Print Date: 08/02/2024	Scale: 1:50
Weather: Overcast	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%		

Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.50	D1							(1.20)		MADE GROUND: Soft greyish brown mottled black slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of red brick, mortar, concrete, mudstone, and quartzite. *0.00 - 1.20: Occasional rootlets >40mm. Rare metal and glass fragments. Low cobble content of red brick.*		
0.50 - 1.20	B2											
1.20 - 1.65	D3	SPT(S) 1.20m, N=5 (1,1/1,1,1,2)						1.20 (0.80)		MADE GROUND: Brown subangular to subrounded, fine to medium GRAVEL of brick and sandstone (Logged from Disturbed SPT samples).		
2.00 - 2.45	D4	SPT(S) 2.00m, N=4 (2,2/1,1,1,1)						2.00 (1.30)		MADE GROUND: Loose brown slightly clayey becoming clayey subangular to subrounded, fine to medium GRAVEL of brick, mortar, and sandstone (Logged from Disturbed SPT samples).		
3.00 - 3.45	D5	SPT(S) 3.00m, N=11 (2,2/2,3,3,3)								*3.00: Becomes clayey.*		
4.00 - 4.45	D6	SPT(S) 4.00m, N=13 (2,3/3,3,3,4)						3.30 (2.70)		Firm locally soft brown slightly sandy CLAY. Sand is fine to coarse (Logged from Disturbed SPT samples). *3.45: Lenses of sand >1mm. Traces of coal <2mm.*		
5.00 - 5.45	D7	SPT(S) 5.00m, N=18 (3,3/4,4,5,5)								*5.00 - 5.45: Locally soft.*	▼	
8.00 - 8.45	D9	SPT(S) 8.00m, N=38 (5,5/7,9,10,12)						6.00 (1.20)		Soft to firm brown slightly gravelly CLAY. Gravel is angular to subangular, fine to coarse of mudstone (Logged from Disturbed SPT samples).		
8.00 - 9.50			0					7.20 (2.30)		Dense dark reddish brown SAND and GRAVEL. Sand is medium. Gravel is subangular to rounded, fine to medium of calcareous mudstone and quartzite (Logged from Disturbed SPT samples).		
9.50 - 9.95	D10	SPT(S) 9.50m, N=45 (6,8/10,12,10,13)						9.50		Dense brown gravelly SAND. Sand is fine to coarse. Gravel is fine of mudstone (Logged from Disturbed SPT samples).		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
05-12-23	17:20	13.95	7.50	5.00
06-12-23	07:40	13.50	7.50	5.00

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	8.00	85	80	Air/ Mist	brown
8.00	9.50	80	80	Air/ Mist	red
9.50	11.00	90	90	Air/ Mist	red

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 8.00m, rotary core follow on to 17.21m. Waterstrike encountered at 5.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as proposed, inferred from OS mapping.

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00	4.50		20	5.00	Medium

Borehole Diameter

Depth (m)	Dia (mm)
15.00	121
17.00	125

Casing Diameter

Depth (m)	Dia (mm)
	150

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	
11.00	13.50	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners				Borehole ID: BHR02
	Contract Number: G231655	Date Started: 05/12/2023	Date Completed: 06/12/2023	Logged: OM	Checked: SW	Status: FINAL	Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385342.9	Northing: 398723.9	Ground Level:	Plant Used: Comacchio 305		Print Date: 08/02/2024	Scale: 1:50
Weather: Overcast	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%			

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
9.50 - 11.00			0									
		SPT(S) 11.00m, 50 (25 for 130mm/50 for 275mm)						(4.00)				
11.00 - 13.50			0									
13.50 - 13.95	D11	SPT(S) 13.50m, N=49 (6,10/9,9,13,18)						13.50		Very stiff brown slightly sandy becoming sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded, fine to medium of mudstone, and quartzite (Logged from Disturbed SPT samples).		
13.50 - 15.00			0					(1.50)				
15.00 - 15.22	D12	SPT(S) 15.00m, 50 (25 for 95mm/50 for 126mm)						15.00		Very dense dark reddish brown clayey slightly gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded, fine of mudstone, and quartzite (Logged from Disturbed SPT samples). *15.00 - 15.22: Becomes sandy.*		
								(2.21)				
		SPT(S) 17.00m, 50 (25 for 117mm/50 for 88mm)						17.21		End of Borehole at 17.21m		

11 12 13 14 15 16 17 18 19 20

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
11.00	13.50	70	70	Air/ Mist	red
13.50	15.00	75	75	Air/ Mist	red
15.00	17.00	50	50	Air/ Mist	red

Remarks:

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Casing Diameter

Depth (m)	Dia (mm)

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	
11.00	13.50	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR03
	Contract Number: G231655	Date Started: 06/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: FINAL — Sheet 1 of 2
Rotary Core Drilling Log	Easting: 385384.9	Northing: 398763.6	Ground Level:	Plant Used: Comacchio 305	Print Date: 08/02/2024	Scale: 1:50
Weather: Rain	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%		

Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.60	B1							(1.20)		MADE GROUND: Medium dense brown sandy becoming very sandy subangular to rounded fine to coarse GRAVEL of sandstone, mudstone, limestone, quartzite and brick. Sand is fine to coarse. *0.60: Becomes very sandy.*		
0.60 - 1.20	B2											
								1.20		MADE GROUND: Medium dense grey angular to subangular fine to coarse GRAVEL of limstone, brick and slag (Logged from Disturbed SPT samples).		
2.00 - 2.45	D3	SPT(S) 2.00m, N=28 (4,4/6,6,7,9)						(1.80)				
3.00 - 3.45	D4	SPT(S) 3.00m, N=23 (3,5/5,5,6,7)						3.00		Medium dense grey slightly sandy GRAVEL. Sand is medium to coarse. Gravel is angular to subangular, fine to coarse of calcareous mudstone and quartzite (Logged from Disturbed SPT samples).		
								(1.00)				
4.00 - 4.45	D5	SPT(S) 4.00m, N=2 (1,0/1,0,1,0)						4.00		Soft grey becoming yellowish brown mottled grey CLAY (Logged from Disturbed SPT samples).		
5.00 - 5.45	D6	SPT(S) 5.00m, N=34 (6,6/8,8,8,10)						(2.50)				
6.50 - 6.95	D7	SPT(S) 6.50m, N=40 (7,9/9,10,10,11)						6.50		Stiff brown gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of mudstone (Logged from Disturbed SPT samples).		
8.00 - 8.45	D8	SPT(S) 8.00m, N=48 (8,10/11,12,12,13)								*8.00 - 8.45: Rare lenses of sand >2mm.*		
8.00 - 9.50			0									
9.50 - 9.73	D9	SPT(S) 9.50m, 50 (25 for 77mm/50 for 149mm)										

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
06-12-23	17:00	16.16	6.00	6.00
07-12-23	07:30	17.00	6.00	6.00

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	3.00	100	100	Air/ Mist	grey
3.00	5.00	80	80	Air/ Mist	red
5.00	9.50	90	90	Air/ Mist	brown

Borehole Diameter

Depth (m)	Dia (mm)
11.50	121
16.00	125

Casing Diameter

Depth (m)	Dia (mm)

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 8.00m, rotary core follow on to 11.00m, followed by open hole drilling to 16.70m. Waterstrike encountered at 6.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
6.00	6.00		20	6.00	Medium

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners				Borehole ID: BHR03
	Contract Number: G231655	Date Started: 06/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: FINAL	Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385384.9	Northing: 398763.6	Ground Level:	Plant Used: Comacchio 305		Print Date: 08/02/2024	Scale: 1:50
Weather: Rain	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%			

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
9.50 - 11.00			0									
11.00 - 11.18	D10	SPT(S) 11.00m, 50 (25 for 96mm/50 for 87mm)										
		SPT(S) 12.50m, 50 (25 for 91mm/50 for 109mm)						(9.66)				
		SPT(S) 14.00m, 50 (25 for 81mm/50 for 230mm)										
		SPT(S) 16.00m, 50 (25 for 79mm/50 for 86mm)						16.16		End of Borehole at 16.16m		

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour
9.50	11.00	60	60	Air/ Mist	red
11.00	12.50	90	90	Air/ Mist	red
12.50	16.00	80	80	Air/ Mist	red

Remarks:

proposed, inferred from OS mapping.

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type
8.00	9.50	87	PWF
9.50	11.00	87	

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: BHR04
	Contract Number: G231655	Date Started: 07/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: FINAL — Sheet 1 of 2
Rotary Core Drilling Log	Easting: 385414.0	Northing: 398803.2	Ground Level:	Plant Used: Comacchio 305	Print Date: 08/02/2024	Scale: 1:50
Weather: Showers	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%		

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.00 - 0.65	B1							(0.60)		MADE GROUND: Brown very clayey subangular to subrounded fine to coarse GRAVEL of brick, limestone, and concrete.		
0.60 - 1.20	B2							0.60		MADE GROUND: Soft brown very gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of brick, limestone, concrete and mudstone (Partially logged from Disturbed SPT samples).		
1.20 - 1.65	D3	SPT(S) 1.20m, N=5 (1,1/0,1,2,2)						(0.80)				
								1.40		MADE GROUND: Soft dark brown slightly sandy CLAY. Sand is fine to coarse (Logged from Disturbed SPT samples).		
								(0.50)		*1.40 - 1.65: >40mm band of green fine to medium sand.*		
2.00 - 2.45	D4	SPT(S) 2.00m, N=10 (2,1/2,2,2,4)						1.90		MADE GROUND: Soft brown slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone, quartzite, and concrete.		
3.00 - 3.30	D5	SPT(S) 3.00m, N=8 (1 for 1mm/0,2,3,3)						(2.10)				
4.00 - 4.45	D6	SPT(S) 4.00m, N=35 (1,2/24,3,4,4)						4.00		Soft brown slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone and coal (Logged from Disturbed SPT samples).		
5.00 - 5.45	D7	SPT(S) 5.00m, N=12 (2,3/2,3,3,4)								*5.00 - 5.45: Absence of gravels. Traces of coal >2mm.*	▼	
								(4.00)				
6.50 - 6.95	D8	SPT(S) 6.50m, N=24 (3,5/6,5,6,7)										
8.00 - 8.45	D9	SPT(S) 8.00m, N=37 (6,9/9,9,10,9)						8.00		Firm brown CLAY (Logged from Disturbed SPT samples).		
								(1.50)				
9.50 - 9.87	D10	SPT(S) 9.50m, 50 (8,14/50 for 224mm)						9.50		Soft reddish brown very sandy CLAY. Sand is fine to coarse (Logged from Disturbed SPT samples).		
								(0.37)				
								9.87	NR NR	No Recovery: Driller notes normal drilling and sand		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
07-12-23	08:00			
07-12-23	16:00	0.00		

Flush Return Information

Top	Base	Min %	Max %	Type	Colour
1.20	2.00	90	90	Air/ Mist	black
2.00	3.00	90	90	Air/ Mist	grey
3.00	4.00	90	90	Air/ Mist	grey

Remarks:

Inspection pit hand dug to 1.20m bgl. Open hole drilling to 15.80m. Waterstrike encountered at 5.00m with no rise noted after 20 minutes. Backfilled with bentonite upon completion. Coordinates are as proposed, inferred from OS mapping.

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00	5.00		20	5.00	Medium

Borehole Diameter

Depth (m)	Dia (mm)
15.50	125

Casing Diameter

Depth (m)	Dia (mm)
7.50	150

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners				Borehole ID: BHR04
	Contract Number: G231655	Date Started: 07/12/2023	Date Completed: 07/12/2023	Logged: OM	Checked: SW	Status: FINAL	Sheet 2 of 2
Rotary Core Drilling Log	Easting: 385414.0	Northing: 398803.2	Ground Level:	Plant Used: Comacchio 305		Print Date: 08/02/2024	Scale: 1:50
Weather: Showers	Rig Crew: Ian Mountain	Termination: Scheduled Depth		SPT Hammer: AR666 Energy Ratio: 65%			

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
		SPT(S) 11.00m, 50 (25 for 89mm/50 for 147mm)							NR NR N NR NR			
		SPT(S) 12.50m, 50 (25 for 135mm/50 for 227mm)						(5.93)	NR NR N NR NR			
		SPT(S) 14.00m, 50 (30 for 88mm/50 for 95mm)							NR NR N NR NR			
		SPT(S) 15.50m, 50 (25 for 81mm/50 for 219mm)						15.80	NR NR N NR NR	End of Borehole at 15.80m		

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour
4.00	5.00	80	80	Air/ Mist	brown
5.00	15.50	90	90	Air/ Mist	brown

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter	
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: ws1
	Contract Number: G231655	Date Started: 23/01/2024	Date Completed: 23/01/2024	Logged:	Checked:	Status: FINAL
Dynamic Sample Drilling Log	Easting: 385337.0	Northing: 398697.0	Ground Level:	Plant Used: Archway Dart	Print Date: 08/02/2024	Scale: 1:50
Weather: Showers	Rig Crew: Luke Thomas	Termination: Target depth				Sheet 1 of 2

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.20	ES1							(1.20)		MADE GROUND: Dark Brown Clayey slightly sandy angular to subrounded fine to coarse GRAVEL of brick, plastics, quartzite, sandstone and mudstone. Sand is fine to coarse.		
0.50	ES2											
1.20	ES3							1.20				
1.50	ES5							(0.80)		MADE GROUND: firm black sandy slightly gravelly CLAY. Gravels are angular to subrounded fine to coarse of brick plastic, mudstone and quartzite. Sand is fine to coarse.		
1.20 - 2.00	L4		100					2.00		MADE GROUND: soft dark brown sandy gravelly CLAY. Gravels are subangular to subrounded fine to coarse of brick, quartzite and mudstone. Sand is fine to coarse.		
2.00 - 3.00	L6		80					(1.00)				
2.50	ES7							3.00		MADE GROUND: very stiff brown sandy slightly gravelly CLAY. Gravels are subangular to subrounded fine to medium of brick, quartzite and mudstone. Sand is fine to coarse.		
3.00 - 4.00	L8		100					(1.00)				
3.50	ES9							4.00		Stiff becoming very stiff brown sandy slightly gravelly CLAY. Gravels are subangular to subrounded fine to medium of mudstone and quartzite. Sands are fine to coarse.		
4.00 - 5.00	L10		70					(1.00)				
4.50	ES11							5.00		Stiff brown slightly gravelly CLAY. Gravels are subangular to subrounded fine to medium of mudstone.		
5.00 - 6.00	L12		45					(1.00)				
								6.00		End of Borehole at 6.00m		

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)
23-01-24	07:30			
23-01-24	11:55	0.00		

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour

Remarks:
Inspection pit hand dug to 1.20mbgl. Open hole drilling to 6mbgl.
Backfilled with bentonite upon completion

Borehole Diameter	
Depth (m)	Dia (mm)
3.00	87
4.00	77
5.00	67

Casing Diameter	
Depth (m)	Dia (mm)
1.00	100

Coring Information			
Top (m)	Base (m)	Dia (mm)	Barrel Type

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners				Borehole ID: ws1
	Contract Number: G231655	Date Started: 23/01/2024	Date Completed: 23/01/2024	Logged:	Checked:	Status: FINAL	Sheet 2 of 2
Dynamic Sample Drilling Log	Easting: 385337.0	Northing: 398697.0	Ground Level:	Plant Used: Archway Dart		Print Date: 08/02/2024	Scale: 1:50
Weather: Showers	Rig Crew: Luke Thomas	Termination: Target depth					

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation

11 12 13 14 15 16 17 18 19 20

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter		Coring Information			
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Top (m)	Base (m)	Dia (mm)	Barrel Type
6.00	57						

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: ws2
	Contract Number: G231655	Date Started: 23/01/2024	Date Completed: 23/01/2024	Logged:	Checked:	Status: FINAL
Dynamic Sample Drilling Log	Easting: 385343.0	Northing: 398721.0	Ground Level:	Plant Used: Archway Dart	Print Date: 08/02/2024	Scale: 1:50
Weather: Rain	Rig Crew: Luke Thomas	Termination: Target depth				Sheet 1 of 2

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.20	ES1							(1.20)		MADE GROUND: greyish brown slightly clayey sandy angular to subangular fine to coarse GRAVEL of brick, plastic, mudstone and sandstone. Sands are fine to coarse.		
0.50	ES2											
1.20	ES3							1.20		MADE GROUND: black very sandy subangular to subrounded fine to coarse GRAVEL of brick, mudstone and sandstone. Sands are fine to coarse.		
1.50	ES5							(0.60)				
1.20 - 2.00	L4		100					1.80		Firm brown mottled blueish grey slightly gravelly CLAY. Gravels are fine to medium of mudstone and sandstone.		
2.00 - 3.00	L6		100									
2.50	ES7									*3.00 - 6.00: becoming stiff brown CLAY*		
3.00 - 4.00	L8		100									
3.50	ES9							(4.20)				
4.00 - 5.00	L10		100									
5.00 - 6.00	L11		100					6.00		End of Borehole at 6.00m		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
23-01-24	12:10			
23-01-24	13:30	0.00		

Flush Return Information

Top	Base	Min %	Max %	Type	Colour

Remarks:

Inspection pit hand dug to 1.20mbgl. Open hole drilling to 6mbgl. Backfilled with bentonite upon completion

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)
2.00	87
4.00	77
5.00	67

Casing Diameter

Depth (m)	Dia (mm)
1.00	100

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS

Contract Name:		Client:		Borehole ID:
Downley Drive, Manchester		Carley Daines & Partners		ws2
Contract Number:	Date Started:	Date Completed:	Logged: / Checked:	Status:
G231655	23/01/2024	23/01/2024		FINAL
Dynamic Sample Drilling Log	Easting: 385343.0	Northing: 398721.0	Ground Level:	Plant Used: Archway Dart
Print Date: 08/02/2024	Scale: 1:50	Sheet 2 of 2		
Weather: Rain	Rig Crew: Luke Thomas	Termination: Target depth		

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation

11 12 13 14 15 16 17 18 19 20

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter		Coring Information			
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Top (m)	Base (m)	Dia (mm)	Barrel Type
6.00	57						

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: ws3
	Contract Number: G231655	Date Started: 23/01/2024	Date Completed: 23/01/2024	Logged:	Checked:	Status: FINAL
Dynamic Sample Drilling Log	Easting: 385379.0	Northing: 398769.0	Ground Level:	Plant Used: Archway Dart	Print Date: 08/02/2024	Scale: 1:50
Weather: Rain	Rig Crew: Luke Thomas	Termination: Target depth				Sheet 1 of 2

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.20	ES1							(1.20)		MADE GROUND: brown clayey angular to subangular fine to coarse GRAVEL of brick and concrete.		
0.50	ES2											
1.20	ES3							1.20		MADE GROUND: Grey sandy angular to subrounded fine to coarse GRAVEL of concrete brick, quartzite and sandstone.		
1.50	ES5							(0.50)				
1.20 - 2.00	L4		100					1.70		Stiff brown slightly gravelly CLAY. Gravels are subangular to subrounded fine to medium of mudstone and sandstone		
1.70	ES6									*1.70 - 3.00: Occasional rootlets*		
2.00 - 3.00	L7		100					(1.30)				
2.50	ES8											
								3.00		Stiff greenish brown silty CLAY.		
3.00 - 4.00	L9		100					(1.00)				
								4.00		Firm greenish brown becoming reddish brown sandy CLAY. Sands are fine to coarse.		
4.00 - 5.00	L10		100					(1.00)				
								5.00		Stiff reddish brown CLAY.		
5.00 - 6.00	L11		100					(1.00)				
								6.00		End of Borehole at 6.00m		

Start & End of Shift Observations

Date	Time	Depth (m)	Casing (m)	Water (m)
23-01-24	13:30			
23-01-24	15:15	0.00		

Flush Return Information

Top	Base	Min %	Max %	Type	Colour

Remarks:

Inspection pit hand dug to 1.20mbgl. Open hole drilling to 6mbgl. Backfilled with bentonite upon completion

Water Strike

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)
2.00	87
4.00	77
5.00	67

Casing Diameter

Depth (m)	Dia (mm)
1.00	100

Coring Information

Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS

Contract Name:		Client:				Borehole ID:
Downley Drive, Manchester		Carley Daines & Partners				ws3
Contract Number:	Date Started:	Date Completed:	Logged:	Checked:	Status:	Sheet 2 of 2
G231655	23/01/2024	23/01/2024			FINAL	
Dynamic Sample Drilling Log	Easting: 385379.0	Northing: 398769.0	Ground Level:	Plant Used: Archway Dart	Print Date: 08/02/2024	Scale: 1:50

Weather: Rain | Rig Crew: Luke Thomas | Termination: Target depth

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation

11 12 13 14 15 16 17 18 19 20

Start & End of Shift Observations					Flush Return Information					
Date	Time	Depth (m)	Casing (m)	Water (m)	Top	Base	Min %	Max %	Type	Colour

Remarks:

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter		Coring Information			
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Top (m)	Base (m)	Dia (mm)	Barrel Type
6.00	57						

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

STRATA GEOTECHNICS	Contract Name: Downley Drive, Manchester		Client: Carley Daines & Partners			Borehole ID: ws4
	Contract Number: G231655	Date Started: 23/01/2024	Date Completed: 23/01/2024	Logged:	Checked:	Status: FINAL
Dynamic Sample Drilling Log	Easting: 385406.0	Northing: 398805.0	Ground Level:	Plant Used: Hand tools	Print Date: 08/02/2024	Scale: 1:50
Weather: Rain	Rig Crew: Luke Thomas	Termination: Agreed depth				Sheet 1 of 1

Samples & In Situ Testing							Strata Details				Groundwater	
Depth	Sample	Test Result	TCR	SCR	RQD	FI/If	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/ Installation
0.20	ES1							(1.20)		Black becoming brown clayey very sandy angular to subrounded fine to coarse GRAVEL of brick, mudstone and quartzite. Sand is fine to coarse.		
0.50	ES2											
1.20	ES3							1.20		End of Borehole at 1.20m		

Start & End of Shift Observations				
Date	Time	Depth (m)	Casing (m)	Water (m)
23-01-24	15:15			
23-01-24	15:55	0.00		

Flush Return Information					
Top	Base	Min %	Max %	Type	Colour

Remarks:
Rig couldn't be moved to position inspection pit hand dug to 1.2mbgl.

Water Strike					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Borehole Diameter		Casing Diameter		Coring Information			
Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	Top (m)	Base (m)	Dia (mm)	Barrel Type

Fracture Index (FI) - Fractures per meter, Fracture Spacing (If) - reported in mm as Min, Average and Max values. TCR, SCR and RQD reported as %. Hand vane (HV) reports Undrained Shear Strength (Su). Pocket penetrometer (PP) reports Unconfined Compressive Strength (UCS)

APPENDIX 5 – CHEMICAL TEST RESULTS

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Analytical Report Number : 24-80513

Project / Site name:	G231655	**Samples received on:**	24/01/2024
Your job number:	G231655	**Samples instructed on/ Analysis started on:**	26/01/2024
Your order number:	VE310490	**Analysis completed by:**	06/02/2024
Report Issue Number:	1	**Report issued on:**	06/02/2024
Samples Analysed:	8 leachate samples - 8 soil samples		

Signed:

Adam Fenwick
Technical Reviewer
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

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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.

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940778	2940779	2940780	2940781	2940782
Sample Reference				WS1	WS1	WS2	WS2	WS3
Sample Number				2	11	2	9	2
Depth (m)				0.50	4.50	0.50	3.50	0.50
Date Sampled				23/01/2024	23/01/2024	23/01/2024	23/01/2024	23/01/2024
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	61	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13	12	11	13
Total mass of sample received	kg	0.001	NONE	1	1	1	1	1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH	JBH	JBH

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	9.1	11.3	8.8	10.4
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO4	mg/kg	50	MCERTS	1400	310	4500	190	2900
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.45	0.04	0.33	0.027	0.42
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	890	80	670	54	830
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	447	40	333	27.2	416
Water Soluble Phosphate as P (2:1)	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Water Soluble Fluoride (2:1)	mg/kg	1	NONE	2.1	1	1.2	2.6	1.7
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	1	< 0.5	1.8

Phenols by GC-MS

Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.35	0.11	0.21	< 0.05	0.96
Acenaphthylene	mg/kg	0.05	MCERTS	0.09	< 0.05	0.09	< 0.05	0.13
Acenaphthene	mg/kg	0.05	MCERTS	0.21	< 0.05	0.74	< 0.05	1.6
Fluorene	mg/kg	0.05	MCERTS	0.28	0.05	0.63	< 0.05	1.2
Phenanthrene	mg/kg	0.05	MCERTS	1.7	0.12	4.8	0.09	7.6
Anthracene	mg/kg	0.05	MCERTS	0.40	< 0.05	1.4	< 0.05	1.9
Fluoranthene	mg/kg	0.05	MCERTS	2.0	0.07	6.8	0.09	9.5
Pyrene	mg/kg	0.05	MCERTS	2.0	0.07	6.1	0.09	8.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.82	< 0.05	2.5	< 0.05	3.6
Chrysene	mg/kg	0.05	MCERTS	0.82	< 0.05	2.8	< 0.05	4.0
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.95	< 0.05	3.1	< 0.05	4.5
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.28	< 0.05	0.84	< 0.05	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.68	< 0.05	2.2	< 0.05	3.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.45	< 0.05	1.3	< 0.05	1.8

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940778	2940779	2940780	2940781	2940782
Sample Reference				WS1	WS1	WS2	WS2	WS3
Sample Number				2	11	2	9	2
Depth (m)				0.50	4.50	0.50	3.50	0.50
Date Sampled				23/01/2024	23/01/2024	23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14	< 0.05	0.35	< 0.05	0.54
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.52	< 0.05	1.5	< 0.05	2.2
Coronene	mg/kg	0.05	NONE	1.3	< 0.05	< 0.05	< 0.05	0.94
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	11.6	< 0.80	35.4	< 0.80	53.2
Total WAC-17 PAHs	mg/kg	0.85	NONE	12.9	< 0.85	35.4	< 0.85	54.1
Heavy Metals / Metalloids								
Aluminium (aqua regia extractable)	mg/kg	30	ISO 17025	8600	17000	9900	14000	9200
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	6.1	10	6.2	12
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	27	19	23	28
Iron (aqua regia extractable)	mg/kg	40	MCERTS	26000	31000	16000	27000	21000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	87	10	72	15	150
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	610	790	350	880	460
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	2	0.45	1.4	0.43	1.1
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	31	14	27	19
Tin (aqua regia extractable)	mg/kg	1	MCERTS	8.1	1.8	5	1.7	20
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	28	21	24	24
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	55	75	54	83
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH C10 - C40 $_{EH_CU_1D_TOTAL}$	mg/kg	10	MCERTS	15	< 10	130	< 10	160
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	1.9
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	18
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	25
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	30	< 8.0	21
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	38	< 10	65
TPH-CWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	4.5	< 2.0	13
TPH-CWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	24	< 10	31
TPH-CWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	47	< 10	40
TPH-CWG - Aromatic (EC5 - EC35) $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	13	< 10	75	< 10	83
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940778	2940779	2940780	2940781	2940782
Sample Reference				WS1	WS1	WS2	WS2	WS3
Sample Number				2	11	2	9	2
Depth (m)				0.50	4.50	0.50	3.50	0.50
Date Sampled				23/01/2024	23/01/2024	23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Miscellaneous Organics								
Coal Tar		N/A	NONE	Not Identified	Not Identified	Not Identified	Not Identified	Not Identified
Total Residue	mg/kg	10	NONE	300	240	570	40	900

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940783	2940784	2940785
Sample Reference				WS3	WS4	WS4
Sample Number				8	2	3
Depth (m)				2.50	0.50	1.20
Date Sampled				23/01/2024	23/01/2024	23/01/2024
Time Taken				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
Moisture Content	%	0.01	NONE	17	18	17
Total mass of sample received	kg	0.001	NONE	1	1	1

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	8.6	8.4
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Total Sulphate as SO4	mg/kg	50	MCERTS	2300	190	290
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.85	0.022	0.015
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	1700	43	30
Water Soluble SO4 (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	853	21.5	15.1
Water Soluble Phosphate as P (2:1)	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
Water Soluble Fluoride (2:1)	mg/kg	1	NONE	2.2	4.1	4.9
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5

Phenols by GC-MS

Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.07	0.10	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.06	0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.07	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.06	0.45	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.12	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.06	0.84	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.05	0.77	0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.33	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.33	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.12	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.24	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.18	< 0.05

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940783	2940784	2940785
Sample Reference				WS3	WS4	WS4
Sample Number				8	2	3
Depth (m)				2.50	0.50	1.20
Date Sampled				23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.18	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	4.05	< 0.80
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	4.05	< 0.85
Heavy Metals / Metalloids						
Aluminium (aqua regia extractable)	mg/kg	30	ISO 17025	19000	18000	17000
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	8.3	12
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	26	25
Iron (aqua regia extractable)	mg/kg	40	MCERTS	31000	30000	28000
Lead (aqua regia extractable)	mg/kg	1	MCERTS	36	23	110
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	450	410	730
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.78	0.61	0.71
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	20	28
Tin (aqua regia extractable)	mg/kg	1	MCERTS	2.6	2.4	3.5
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	34	32	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	57	44	48
Monoaromatics & Oxygenates						
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons						
TPH C10 - C40 $_{EH_CU_1D_TOTAL}$	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10	< 10
PCBs by GC-MS						
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940783	2940784	2940785
Sample Reference				WS3	WS4	WS4
Sample Number				8	2	3
Depth (m)				2.50	0.50	1.20
Date Sampled				23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
Total PCBs by GC-MS						
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007
Miscellaneous Organics						
Coal Tar		N/A	NONE	Not Identified	Not Identified	Not Identified
Total Residue	mg/kg	10	NONE	25	63	19

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940786	2940787	2940788	2940789	2940790
Sample Reference				WS1	WS1	WS2	WS2	WS3
Sample Number				2	11	2	9	2
Depth (m)				0.50	4.50	0.50	3.50	0.50
Date Sampled				23/01/2024	23/01/2024	23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (automated)	pH Units	N/A	ISO 17025	7.7	7.9	11.5	8.3	11.5
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200	< 200	< 200	210
Sulphate as SO_4	mg/l	0.1	ISO 17025	219	15.9	25.6	8.5	41.5
Phosphate as P	µg/l	20	NONE	< 20	< 20	< 20	< 20	< 20
Fluoride	µg/l	50	ISO 17025	640	280	170	650	360
Ammoniacal Nitrogen as N	µg/l	15	NONE	38	60	360	72	790
Phenols by GC-MS								
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Total Phenols (GC-MS)	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	0.85
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	1.7
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	0.7
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	1.3
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	0.24
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	0.28
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	0.19
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total WAC-17 PAHs	µg/l	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	5.2
Heavy Metals / Metalloids								
Aluminium (dissolved)	mg/l	0.012	ISO 17025	0.25	0.028	2.2	1.4	2.1
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	1.4	3
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.4	< 0.4	3.1	2.1	1.8

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940786	2940787	2940788	2940789	2940790
Sample Reference				WS1	WS1	WS2	WS2	WS3
Sample Number				2	11	2	9	2
Depth (m)				0.50	4.50	0.50	3.50	0.50
Date Sampled				23/01/2024	23/01/2024	23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Iron (dissolved)	mg/l	0.004	ISO 17025	0.16	< 0.004	0.058	0.85	0.087
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	1.6	< 1.0	< 1.0
Manganese (dissolved)	µg/l	0.06	ISO 17025	59	84	4.5	150	5.8
Molybdenum (dissolved)	µg/l	0.4	ISO 17025	13	8.8	6.4	1	8.4
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.3	0.9	3.9	2.3	5.1
Tin (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	1.4	< 1.0	< 1.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	14	< 1.7	37
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	2.6	3.3	8.7	17
Monoaromatics & Oxygenates								
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
Petroleum Hydrocarbons								
TPH1 (C10 - C40) $_{EH_1D_TOTAL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	44
TPH-CWG - Aliphatic >C5 - C6 $_{HS_1D_AL}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS_1D_AL}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS_1D_AL}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH_1D_AL_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS_1D_AR}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS_1D_AR}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS_1D_AR}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	11
TPH-CWG - Aromatic >C12 - C16 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	23
TPH-CWG - Aromatic >C16 - C21 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	10
TPH-CWG - Aromatic >C21 - C35 $_{EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH_1D_AR_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	44
PCBs by GC-MS								
PCB Congener 28	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PCB Congener 52	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PCB Congener 101	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
PCB Congener 118	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PCB Congener 138	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PCB Congener 153	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PCB Congener 180	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PCBs by GC-MS								
Total PCBs	µg/l	0.4	NONE	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Miscellaneous								

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940786	2940787	2940788	2940789	2940790
Sample Reference				WS1	WS1	WS2	WS2	WS3
Sample Number				2	11	2	9	2
Depth (m)				0.50	4.50	0.50	3.50	0.50
Date Sampled				23/01/2024	23/01/2024	23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Coal Tar		N/A	NONE	Not Identified	Not Identified	Not Identified	Not Identified	Not Identified

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940791	2940792	2940793
Sample Reference				WS3	WS4	WS4
Sample Number				8	2	3
Depth (m)				2.50	0.50	1.20
Date Sampled				23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
General Inorganics						
pH (automated)	pH Units	N/A	ISO 17025	8.1	8	8.5
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Thiocyanate as SCN	µg/l	200	ISO 17025	< 200	< 200	< 200
Sulphate as SO_4	mg/l	0.1	ISO 17025	271	2.7	1.8
Phosphate as P	µg/l	20	NONE	< 20	< 20	44
Fluoride	µg/l	50	ISO 17025	510	1200	1000
Ammoniacal Nitrogen as N	µg/l	15	NONE	32	120	160
Phenols by GC-MS						
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Total Phenols						
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
Total Phenols (GC-MS)	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Speciated PAHs						
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Total PAH						
Total WAC-17 PAHs	µg/l	0.1	NONE	< 0.1	< 0.1	< 0.1
Heavy Metals / Metalloids						
Aluminium (dissolved)	mg/l	0.012	ISO 17025	0.18	0.07	0.062
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4	0.5

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940791	2940792	2940793
Sample Reference				WS3	WS4	WS4
Sample Number				8	2	3
Depth (m)				2.50	0.50	1.20
Date Sampled				23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Iron (dissolved)	mg/l	0.004	ISO 17025	0.097	0.12	0.1
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	2.5
Manganese (dissolved)	µg/l	0.06	ISO 17025	57	27	20
Molybdenum (dissolved)	µg/l	0.4	ISO 17025	< 0.4	2.9	3.2
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.4	0.6	0.7
Tin (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	1.3
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7	3.2
Zinc (dissolved)	µg/l	0.4	ISO 17025	12	1.4	< 0.4
Monoaromatics & Oxygenates						
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10	< 10
Petroleum Hydrocarbons						
TPH1 (C10 - C40) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_MS	µg/l	10	NONE	< 10	< 10	< 10
PCBs by GC-MS						
PCB Congener 28	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PCB Congener 52	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PCB Congener 101	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02
PCB Congener 118	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PCB Congener 138	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PCB Congener 153	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PCB Congener 180	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
PCBs by GC-MS						
Total PCBs	µg/l	0.4	NONE	< 0.40	< 0.40	< 0.40
Miscellaneous						

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Analytical Report Number: 24-80513
Project / Site name: G231655

Lab Sample Number				2940791	2940792	2940793
Sample Reference				WS3	WS4	WS4
Sample Number				8	2	3
Depth (m)				2.50	0.50	1.20
Date Sampled				23/01/2024	23/01/2024	23/01/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Coal Tar		N/A	NONE	Not Identified	Not Identified	Not Identified

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-80513
Project / Site name: G231655

* 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 *
2940778	WS1	2	0.5	Brown clay and sand with gravel and stones.
2940779	WS1	11	4.5	Brown clay with gravel.
2940780	WS2	2	0.5	Brown clay and sand with gravel.
2940781	WS2	9	3.5	Brown clay and sand with gravel.
2940782	WS3	2	0.5	Brown clay and sand with gravel.
2940783	WS3	8	2.5	Brown clay and sand with gravel and vegetation.
2940784	WS4	2	0.5	Brown clay and sand with gravel and vegetation.
2940785	WS4	3	1.2	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 24-80513
Project / Site name: G231655

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	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
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Phenols, speciated, in leachate, by GCMS	Determination of speciated phenols in leachate by extraction in hexane followed by GC-MS.	In-house method based on USEPA 8270	L070-PL	W	NONE
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Cations in soil by ICP-OES	Determination of cations 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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Free cyanide in leachate	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fluoride in leachate	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Fluoride, water soluble, in soil	Determination of fluoride in soil by water extraction followed by 1:1 ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	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. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

Analytical Report Number : 24-80513
Project / Site name: G231655

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Speciated WAC-17 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Speciated WAC-17 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
PCB's By GC-MS in leachate	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L028-UK	W	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-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
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Thiocyanate in leachate	Determination of thiocyanate in water by discreet analyser (colorimetry).	In house method based on SMWW 4500-CN-M.	L082-PL	W	ISO 17025
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in water followed by acidification followed by addition of ferric nitrate followed by discrete analyser (spectrophotometer).	In-house method	L082-PL	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	NONE
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS

Analytical Report Number : 24-80513
Project / Site name: G231655

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Water Soluble Phosphate as P in soil	Determination of ortho phosphate in soil by extraction with water then by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by discrete analyser (colorimetry).	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	D	NONE
Phosphate as P in leachate	Determination of ortho phosphate in leachate by addition of ammonium molybdate, potassium antimonyl tartrate and ascorbic acid followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID. Refer to CoA for band specific accreditation.	In-house method with silica gel split/clean up.	L088/76-PL	D	MCERTS
Coal Tar in Soil	DCM Extraction with qualitative interpretation via GC/MS	In-house method	L064-PL	D	NONE
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Coal Tar in leachate	DCM Extraction with qualitative interpretation via GC/MS	In-house method	L070-PL		NONE
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted

Analytical Report Number : 24-80513
Project / Site name: G231655

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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Analytical Report Number : 24-80514

Project / Site name:	G231655	**Samples received on:**	24/01/2024
Your job number:	G231655	**Samples instructed on/ Analysis started on:**	26/01/2024
Your order number:	VE310490	**Analysis completed by:**	06/02/2024
Report Issue Number:	1	**Report issued on:**	06/02/2024
Samples Analysed:	8 10:1 WAC Samples		

Signed:

Adam Fenwick
Technical Reviewer
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

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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.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**				**Landfill Waste Acceptance Criteria**		
Lab Reference (Sample Number)	2940794 / 2940795				**Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1 2						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	4.0				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) $_{EH_1D_CU_AL}$	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	10.6				100	--	--
pH (units)**	6.6				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-2.3				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0056			0.0559	0.5	2	25
Barium *	0.0172			0.172	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0019			0.019	0.5	10	70
Copper *	0.012			0.12	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0043			0.0434	0.5	10	30
Nickel *	0.0013			0.013	0.4	10	40
Lead *	0.0063			0.063	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.013			0.13	4	50	200
Chloride *	1.6			16	800	15000	25000
Fluoride*	0.27			2.7	10	150	500
Sulphate *	36			360	1000	20000	50000
TDS*	78			780	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	12.4			124	500	800	1000
Leach Test Information							
Stone Content (%)	61						
Sample Mass (kg)	1.0						
Dry Matter (%)	87						
Moisture (%)	13						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**						
Lab Reference (Sample Number)	2940796 / 2940797				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1 11						
Depth (m)	4.50						
Solid Waste Analysis							
TOC (%)**	0.7				3%	5%	6%
Loss on Ignition (%) **	2.1				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	8.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	7.7				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0395			0.395	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0014			0.014	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0038			0.0378	0.5	10	30
Nickel *	0.0007			0.0066	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0011			0.011	4	50	200
Chloride *	2.4			24	800	15000	25000
Fluoride*	0.18			1.8	10	150	500
Sulphate *	6.4			64	1000	20000	50000
TDS*	52			520	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	13.9			139	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	87						
Moisture (%)	13						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

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** = MCERTS accredited

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**						
Lab Reference (Sample Number)	2940798 / 2940799				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS2 2						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	2.8				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	44				500	--	--
Total PAH (WAC-17) (mg/kg)	32.5				100	--	--
pH (units)**	10.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	62				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0013			0.0133	0.5	2	25
Barium *	0.0336			0.336	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0018			0.018	0.5	10	70
Copper *	0.012			0.12	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0015			0.0153	0.5	10	30
Nickel *	0.0014			0.014	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0040			0.040	4	50	200
Chloride *	0.83			8.3	800	15000	25000
Fluoride*	0.13			1.3	10	150	500
Sulphate *	20			200	1000	20000	50000
TDS*	240			2400	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.30			43.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	88						
Moisture (%)	12						

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**						
Lab Reference (Sample Number)	2940800 / 2940801				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS2 9						
Depth (m)	3.50						
Solid Waste Analysis							
TOC (%)**	0.6				3%	5%	6%
Loss on Ignition (%) **	2.8				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	6.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-0.38				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0068			0.0682	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0032			0.032	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0006			0.0060	0.5	10	30
Nickel *	0.0008			0.0075	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0032			0.032	4	50	200
Chloride *	1.8			18	800	15000	25000
Fluoride*	0.28			2.8	10	150	500
Sulphate *	2.5			25	1000	20000	50000
TDS*	46			460	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	10.9			109	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	89						
Moisture (%)	11						

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**				**Landfill Waste Acceptance Criteria**		
Lab Reference (Sample Number)	2940802 / 2940803				**Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS3 2						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.2				3%	5%	6%
Loss on Ignition (%) **	4.1				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	75				500	--	--
Total PAH (WAC-17) (mg/kg)	48.8				100	--	--
pH (units)**	10.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	48				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0014			0.0137	0.5	2	25
Barium *	0.0233			0.233	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0008			0.0077	0.5	10	70
Copper *	0.013			0.13	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0023			0.0230	0.5	10	30
Nickel *	0.0014			0.014	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0028			0.028	4	50	200
Chloride *	1.4			14	800	15000	25000
Fluoride*	0.21			2.0	10	150	500
Sulphate *	25			250	1000	20000	50000
TDS*	210			2100	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.89			58.9	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	87						
Moisture (%)	13						

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**						
Lab Reference (Sample Number)	2940804 / 2940805				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS3 8						
Depth (m)	2.50						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	4.3				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	7.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.00				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0026			0.0262	0.5	2	25
Barium *	0.0243			0.243	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0010			0.0097	0.5	10	70
Copper *	0.0059			0.059	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0008			0.0082	0.5	10	30
Nickel *	0.0012			0.012	0.4	10	40
Lead *	0.0023			0.023	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	0.0049			0.049	0.1	0.5	7
Zinc *	0.011			0.11	4	50	200
Chloride *	3.9			39	800	15000	25000
Fluoride*	0.24			2.4	10	150	500
Sulphate *	56			560	1000	20000	50000
TDS*	110			1100	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.60			56.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	83						
Moisture (%)	17						

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**						
Lab Reference (Sample Number)	2940806 / 2940807				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS4 2						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.6				3%	5%	6%
Loss on Ignition (%) **	3.0				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	3.58				100	--	--
pH (units)**	8.8				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0043			0.0428	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0004			0.0041	0.5	10	70
Copper *	0.0025			0.025	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0012			0.0115	0.5	10	30
Nickel *	0.0010			0.0099	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0017			0.017	4	50	200
Chloride *	1.6			16	800	15000	25000
Fluoride*	0.68			6.8	10	150	500
Sulphate *	1.1			11	1000	20000	50000
TDS*	25			250	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	16.4			164	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	82						
Moisture (%)	18						

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Waste Acceptance Criteria Analytical Results

Report No:	**24-80514**						
					Client:	**VAN ELLE**	
Location	**G231655**						
Lab Reference (Sample Number)	2940808 / 2940809				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	23/01/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS4 3						
Depth (m)	1.20						
Solid Waste Analysis							
TOC (%)**	0.7				3%	5%	6%
Loss on Ignition (%) **	3.2				--	--	10%
BTEX (µg/kg)**	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	7.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.00				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0074			0.0736	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0049			0.049	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0032			0.0324	0.5	10	30
Nickel *	0.0012			0.013	0.4	10	40
Lead *	0.0016			0.016	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	0.0041			0.041	0.1	0.5	7
Zinc *	0.0010			0.010	4	50	200
Chloride *	1.5			15	800	15000	25000
Fluoride*	0.74			7.4	10	150	500
Sulphate *	1.3			13	1000	20000	50000
TDS*	44			440	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	13.2			132	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	83						
Moisture (%)	17						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

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Analytical Report Number : 24-80514
Project / Site name: G231655

* 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 *
2940794	WS1	2	0.5	Brown clay and sand with gravel and stones.
2940796	WS1	11	4.5	Brown clay with gravel.
2940798	WS2	2	0.5	Brown clay and sand with gravel.
2940800	WS2	9	3.5	Brown clay and sand with gravel.
2940802	WS3	2	0.5	Brown clay and sand with gravel.
2940804	WS3	8	2.5	Brown clay and sand with gravel and vegetation.
2940806	WS4	2	0.5	Brown clay and sand with gravel and vegetation.
2940808	WS4	3	1.2	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 24-80514
Project / Site name: G231655

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 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
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	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
Total organic carbon (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
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025

Analytical Report Number : 24-80514
Project / Site name: G231655

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

APPENDIX 6 – PILING LOGS

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 6	Contract: ST VINCENT ST / Rowlinson	Job No.: 214410
Date: 7/11/22	Start Time:	Finish Time:

Pile Dia. (mm)	300				CONCRETE DETAILS		
Total Piles in Contract					Supplier	CEMEX	
Piles Installed Today	25				Mix Details		
Total Installed to Date	121				Qty. Delivered Today	M³	
Piles Remaining					Qty. Rejected Today	M³ ☐ Reason	
	Rig Type: SF-50					Rig Hours: 11554.	

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc..
P10	300	13.75	6 x B12 x 6m	N/A	0.400	Block 3.
P9	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
P8	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
P7	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
P1	300	13.75	6 x B12 x 6m	— " —	0.300	Block 2.
P5	300	13.75	6 x B12 x 6m	— " —	0.400	Block 3.
P4	300	13.75	6 x B12 x 6m	— " —	0.400	Block 3.
P3	300	13.75	6 x B12 x 6m	— " —	0.400	Block 3.
P15	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
P14	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
P13	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
P12	300	13.75	6 x B12 x 6m	— " —	0.400	" — "
	Total	362				

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By: SAM morrell

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
	Load 2.	P16	190		
		Block 3			

Pump Type: PUT3

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received)

I Confirm this is a true Record: - yes. Client Name: D. NOLAN.

Van Elle Operative Name: LEIGH SINNOTT Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL): ..... **Date:** ..... **Signature (Client):** ..... **Date:** 7/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 6A	Contract: St Vincent St / Rowlinson	Job No.: 214410
Date: 7/11/22	Start Time:	Finish Time:

Pile Dia. (mm)	300				CONCRETE DETAILS	
Total Piles in Contract					Supplier	CEMEX
Piles Installed Today	25				Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
P19	300	13.75	6xB12x6m	N/A	0.400	Block 3.
P18	300	13.75	6xB12x6m	— 1 —	0.400	Block 3.
P17	300	13.75	6xB12x6m	— 1 —	0.400	" — "
P16	300	13.75	6xB12x6m	— 1 —	0.400	" — "
P11	300	13.75	6xB12x6m	— 1 —	0.400	" — "
P6	300	13.75	6xB12x6m	— 1 —	0.400	" — "
P1	300	13.75	6xB12x6m	— 1 —	0.400	" — "
P2	300	13.75	6xB12x6m	— 1 —	0.400	" — "
P38	300	16m	6xB12x6m	NA	0.300	APARTMENT. —
P37	300	16m	6xB12x6m	— 1 —	0.300	" — "
P36	300	16m	6xB12x6m	— 1 —	0.300	" — "
P62	300	16m	6xB12x6m	— 1 —	0.300	" — "
	Total	362.				

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By: Sam Morrell

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type: PUT3

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received): Pile 16 Block 3 redrill to 7m

I Confirm this is a true Record: - YES - Client Name: DONCAN

Van Elle Operative Name: LEIGH SINNOTT Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No**

Signed (VEL): .....

Date: 7/11/22

Signature (Client): .....

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 6B	Contract: STVINCENT / Rowlinson	Job No.: 214410
Date: 7/11/22	Start Time:	Finish Time:

Pile Dia. (mm)	300				CONCRETE DETAILS	
Total Piles in Contract					Supplier	CEMEX
Piles Installed Today	25				Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
P61	300	16M	6xB12x6m	N/A	0-300	APARTMENTS.
	Total	362				

Pile Schedule Rev. No.: ..... Pile Schedule Issue Date: .....

Today: To Date: Drawing No./Rev.

Cubes Made By: SAM M

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type: PUTZ

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received)

P61 Apartments rig refusal @ 15.4m

I Confirm this is a true Record: - Yes Client Name: D. NOLAN

Van Elle Operative Name: LEIGH SINNOTT Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL): ..... **Date:** 7/11/22 **Signature (Client):** ..... **Date:** 7/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 7	Contract: ST VINCENT ST	Job No.: 214610.
Date: 8/11/22	Start Time: 7.30	Finish Time: 17.30

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today	21				Mix Details	
Total Installed to Date	142				Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc..
60	300	16	6B12 x 6m	—	0.30	APARTMENTS
59	300	16	6B12 x 6m	—	0.30	
58	300	16	6B12 x 6m	—	0.30	
95	300	16	6B12 x 6m	—	0.30	
94	300	16	6B12 x 6m	—	0.30	
93	300	16	6B12 x 6m	—	0.30	
91	300	16	6B12 x 6m	—	0.30	
90	300	16	6B12 x 6m	—	0.30	
89	300	16	6B12 x 6m	—	0.30	
88	300	16m	6B12 x 6m	—	0.300	
87	300	16	6B12 x 6m	—	0.30	
69	300	16	6B12 x 6m	—	0.30	
	Total					

Pile Schedule Rev. No.:			Pile Schedule Issue Date:		
Today:	To Date:		Drawing No./Rev.		
Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes / No
	4	L0802	93	200	✓

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: D. NOC

Van Elle Operative Name: C. SPACEY Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL):	**Date:**	**Signature (Client):**	**Date:**
.....	8/11/22	.....	8/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 7A	Contract:	Job No.:
Date: 8/11/22	Start Time:	Finish Time:

						CONCRETE DETAILS	
Pile Dia. (mm)							
Total Piles in Contract						Supplier	
Piles Installed Today						Mix Details	
Total Installed to Date						Qty. Delivered Today	M^3
Piles Remaining						Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:						Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
69	300	16	6B12 x 6m	—	0.300	
67	300	16	6B12 x 6m	—	0.300	
66	300	16	6B12 x 6M	—	0.300	
65	300	16	6B12 x 6m	—	0.300	
66	300	16	6B12 x 6m	—	0.300	
63	300	16	6B12 x 6m	—	0.300	
41	300	16	6B12 x 6m	—	0.300	
40	300	16	6B12 x 6m	—	0.300	
39	300	16	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type

.....

Efficiency (%)

.....

Calibration Date

.....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name: .....

Van Elle Operative Name: C. SPACEY

Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL): ..... **Date:** 8/11/22

Signature (Client): ..... **Date:** 8/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 8	Contract: ST VINCEN ST	Job No.: 214610.
Date: 9/11/22	Start Time: 7.30	Finish Time: 17:30

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today	29				Mix Details	
Total Installed to Date	171				Qty. Delivered Today	41 M³
Piles Remaining	82				Qty. Rejected Today	M³☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
25	300	16	6B12 x 6m	—	0.300	
24	300	16	6B12 x 6m	—	0.300	
30	300	16	6B12 x 6m	—	0.300	
31	300	16	6B12 x 6m	—	0.300	
134	300	16	6B12 x 6M	—	0.400	
135	300	16	6B12 x 6m	—	0.400	
136	300	16	6B12 x 6m	—	0.400	
137	300	16	6B12 x 6m	—	0.400	
32	300	16	6B12 x 6m	—	0.300	
33	300	16	6B12 x 6m	—	0.300	
34	300	16	6B12 x 6m	—	0.300	
35	300	16	6B12 x 6m	—	0.300	
	Total	645				

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today: 4

To Date: 32

Drawing No./Rev.

Cubes Made By: S MORRELL

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
6	LOAD 2	134	200	✓	

Pump Type: PUTZ1006

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name: DNOR

Van Elle Operative Name: C SPACEY

Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL):	**Date:**	**Signature (Client):**	**Date:**
CS	9/11/22		9/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 8A	Contract: 60 ST VINCENT ST	Job No.: 21641O
Date: 9/11	Start Time:	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
11	300	16	6B12 x 6m	—	0.300	
12	300	16	6B12 x 6m	—	0.300	
13	300	16	6B12 x 6m	—	0.300	
14	300	16	6B12 x 6m	—	0.300	
15	300	16	6B12 x 6m	—	0.300	
16	300	16	6B12 x 6m	—	0.300	
17	300	16	6B12 x 6m	—	0.300	
18	300	16	6B12 x 6m	—	0.300	
19	300	16	6B12 x 6m	—	0.300	
20	300	16	6B12 x 6m	—	0.300	
21	300	16	6B12 x 6m	—	0.300	
22	300	16	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - Yes

Client Name: .....

Van Elle Operative Name: C. STACEY

Client Position: SM.

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL): ..... **Date:** 9/11

Signature (Client): ..... **Date:** 9/11

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 88	Contract: ST VINCENT ST	Job No.: 214410
Date: 8/11/22	Start Time: 7:30	Finish Time:

Pile Dia. (mm)					CONCRETE DETAILS	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
23	300	16	6B12 x 6m	—	0.300	
26	300	16	6B12 x 6m	—	0.300	
96	300	16	6B12 x 6m	—	0.300	
111	300	16	6B12 x 6m	—	0.300	
110	300	16	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type

.....

Efficiency (%)

.....

Calibration Date

.....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name: D. NICK

Van Elle Operative Name: C STACEY

Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes ☐**	**No ☐**	**(tick)**
Fuel Bowser(s) Locked	**Yes ☐**	**No ☐**	**(tick)**	All Plant Locked & Keys Removed	**Yes ☐**	**No ☐**	**(tick)**
Rig Computer Safe	**Yes ☐**	**No ☐**	**(tick)**	Store Shed Locked and Protected	**Yes ☐**	**No ☐**	**(tick)**

Signed (VEL): ..... **Date:** 8/11/22

Signature (Client): ..... **Date:** 8/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 9	Contract: ST VINCENT ST	Job No.: 216410
Date: 10/11/22	Start Time: 7:30	Finish Time: 19:00

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	CEMEX
Piles Installed Today	24				Mix Details	
Total Installed to Date	195				Qty. Delivered Today	38 M³
Piles Remaining	58				Qty. Rejected Today	M³☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
109	300	16	6B12 x 6m	—	0.700	
108	300	16	6B12 x 6m	—	0.700	
107	300	16	6B12 x 6m	—	0.700	
106	300	16	6B12 x 6m	—	0.700	Refusal 15.3
105	300	16	6B12 x 6m	—	0.700	
104	300	16	6B12 x 6m	—	0.700	
103	300	16	6B12 x 6m	—	0.700	
132	300	16	6B12 x 6m	—	0.700	
131	300	16	6B12 x 6m	—	0.700	
130	300	16	6B12 x 6m	—	0.700	
129	300	16	6B12 x 6m	—	0.700	
128	300	16	6B12 x 6m	—	0.700	
	Total	185				

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today: 4

To Date: 36

Drawing No./Rev.

Cubes Made By: S MORELL

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
4	LOAD 2	103	190	✓	

Pump Type: .....

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name: NCR

Van Elle Operative Name: C SPACEY

Client Position: SM

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	Yes ☐	No ☐	(tick)
Fuel Bowser(s) Locked	Yes ☐	No ☐	(tick)	All Plant Locked & Keys Removed	Yes ☐	No ☐	(tick)
Rig Computer Safe	Yes ☐	No ☐	(tick)	Store Shed Locked and Protected	Yes ☐	No ☐	(tick)

Signed (VEL):	**Date:**	**Signature (Client):**	**Date:**
.....	10/11/22	.....	10/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 9A	Contract:	Job No.:
Date: 10/11	Start Time:	Finish Time:

Pile Dia. (mm)					CONCRETE DETAILS	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
127	300	16	6B12 x 6m	—	0.700	APARTMENTS.
126	300	16	6B12 x 6m	—	0.700	
125	300	16	6B12 x 6m	—	0.700	
R4	300	16	6B12 x 6m	—	0.700	
123	300	16	6B12 x 6m	—	0.700	
P122	300	16m	6B12 X 6m	—	0.700	
P121	300	16m	6B12 X 6m	—	0.700	
P109	300	16m	6B12 X 6m	—	0.700	
P120	300	16m	6B12 X 6m	—	0.700	
P119	300	16m	6B12 X 6m	—	0.700	
101	300	16	6B12 x 6m	—	0.700	
119	300	16	6B12 x 6m	—	0.700	
	Total					

Pile Schedule Rev. No.:		Pile Schedule Issue Date:			
Today:	To Date:	Drawing No./Rev.			
Cubes Made By	No. / Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: DONAN

Van Elle Operative Name: C SPACEY Client Position: Sm

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 10/11 **Signature (Client):** ..... **Date:** 10/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 10	Contract: ST VINCENT ST	Job No.: 214610
Date: 4/11/22	Start Time: 7:70	Finish Time:

Pile Dia. (mm)					CONCRETE DETAILS	
Total Piles In Contract					Supplier	
Piles Installed Today	15				Mix Details	
Total Installed to Date	210				Qty. Delivered Today	21.6 M³
Piles Remaining	43				Qty. Rejected Today	M³ ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc..
100	300	16	6B12 x 6m	–	0.300	
92	300	16	6B12 x 6m	–	0.300	
86	300	16	6B12 x 6m	–	0.300	
85	300	16	6B12 x 6m	–	0.300	
133	300	16	6B12 x 6m	–	0.300	
73	300	16	6B12 x 6m	–	0.300	
74	300	16	6B12 x 6m	–	0.300	
75	300	16	6B12 x 6m	–	0.300	
76	300	16	6B12 x 6m	–	0.300	
77	300	16	6B12 x 6m	–	0.300	
78	300	16	6B12 x 6m	–	0.300	
79	300	16	6B12 x 6m	–	0.300	
	Total	250				

Pile Schedule Rev. No.:	Pile Schedule Issue Date: .....
Today: 4	To Date: 40
	Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
S MCCELL	4	LOAD2	133	200		

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: D NOLA

Van Elle Operative Name: C SPACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 4.11.22 **Signature (Client):** ..... **Date:** 4/11

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 10A	Contract: ST VINCENT ST	Job No.: 214410.
Date: 11/11	Start Time:	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc..
80	300	16	6B12 x 6m	–	0.300	
81	300	16	6B12 x 6m	–	0.300	
82	300	16	6B12 x 6m	–	0.300	
	Total					

Pile Schedule Rev. No.: ..... Pile Schedule Issue Date: .....

Today: To Date: Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: .....

Van Elle Operative Name: S. SPACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 11/11/22 **Signature (Client):** ..... **Date:** 11/11

VAN ELLE — CFA DAILY RECORD SHEET

TOTAL FOUNDATION SOLUTIONS

CON59 26.11.2018

Record No.: 11	Contract: ST UNDERPASS	Job No.: 216610
Date: 14/11/22	Start Time: 7:30	Finish Time:

Pile Dia. (mm)	300				CONCRETE DETAILS	
Total Piles in Contract	259				Supplier	
Piles Installed Today	26				Mix Details	
Total Installed to Date	236				Qty. Delivered Today	M^3
Piles Remaining	23				Qty. Rejected Today	M^3 ☐ Reason
	Rig Type: SO/6					Rig Hours: 11597

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
83	300	16	6B12 x 6m	—	0.300	
86	300	16	6B12 x 6m	—	0.300	
97	300	16	6B12 x 6m	—	0.700	
98	300	16	6B12 x 6m	—	0.700	
99	300	16	6B12 x 6m	—	0.700	
70	300	16	6B12 x 6m	—	0.300	
71	300	16	6B12 x 6m	—	0.300	
72	300	16	6B12 x 6m	—	0.300	
46	300	16	6B12 x 6m	—	0.300	
47	300	16	6B12 x 6m	—	0.300	
48	300	16	6B12 x 6m	—	0.300	
49	300	16	6B12 x 6m	—	0.300	
	Total	425				

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today: 4

To Date: 44

Drawing No./Rev.

Cubes Made By: 5 MARRELL

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
4	LOAD 2	99	200	✓	

Pump Type: .....

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received)

VIBRO MONITOR ACTIVE SPIKES CAUGHT DUE TO SETTING OUT / DIGGER MOVEMENT

30

I Confirm this is a true Record: - YES

Client Name: .....

Van Elle Operative Name: C. SPACEY

Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 14/11/22

Signature (Client): ..... **Date:** 14/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 11A	Contract: ST VINCENT ST	Job No.: 21640
Date: 16/11	Start Time:	Finish Time:

					CONCRETE DETAILS	
Pile Dia. (mm)						
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
50	300	16	6B12 x 6m	—	0.300	APARTMENTS.
51	300	16	6B12 x 6m	—	0.700	
52	300	16	6B12 x 6m	—	0.300	
53	300	16m	6B12 x 6m	—	0.500	
54	300	16	6B12 x 6m	—	0.300	
55	300	16	6B12 x 6m	—	0.300	
56	300	16	6B12 x 6m	—	0.300	
57	300	16	6B12 x 6m	—	0.300	
5	300	16	6B12 x 6m	—	0.300	
6	300	16	6B12 x 6m	—	0.300	
7	300	16	6B12 x 6m	—	0.300	
8	300	16	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.:	Pile Schedule Issue Date: .....
Today:	To Date: / Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: .....

Van Elle Operative Name: C SPACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 16/11/22

Signature (Client): ..... **Date:** 14/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 118	Contract: ST VINCENT ST	Job No.: 214610
Date: 14/11	Start Time:	Finish Time:

						CONCRETE DETAILS	
Pile Dia. (mm)							
Total Piles in Contract						Supplier	
Piles Installed Today						Mix Details	
Total Installed to Date						Qty. Delivered Today	M^3
Piles Remaining						Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:						Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
9	300	16	6B12 x 6m	—	0.30	
10	300	16	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type

.....

Efficiency (%)

.....

Calibration Date

.....

General Remarks (including instructions received)

I Confirm this is a true Record: - Yes

Client Name: .....

Van Elle Operative Name: C. SPACEY

Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): .....

Date: 14.11

Signature (Client): .....

Date: 14/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 12	Contract: ST VINCENT ST	Job No.: 214610.
Date: 15/11/22	Start Time: -	Finish Time:

Pile Dia. (mm)	300				**CONCRETE DETAILS**	
Total Piles in Contract	257				Supplier	CEMEX
Piles Installed Today	17				Mix Details	C32 SC
Total Installed to Date	253				Qty. Delivered Today	20.6M³
Piles Remaining	6				Qty. Rejected Today	M³☐ Reason
	Rig Type: SR30/6					Rig Hours: 116

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
112	300	16	6B12 x 6m	—	0.700	
113	300	16	6B12 x 6m	—	0.700	
114	300	16	6B12 x 6m	—	0.700	KICKED OFF
115	300	16	6B12 x 6m	—	0.700	
116	300	16	6B12 x 6m	—	0.700	
117	300	16	6B12 x 6m	—	0.700	
CB1	300	16	6B16 x 9m	—	0.600	CRANE BASE
CB2	300	16	6B16 x 9m	—	0.600	
CB3	300	16	6B16 x 9m	—	0.600	
CB4	300	16	6B16 x 9m	—	0.600	
CB5	300	16	6B16 x 9m	—	0.600	
CB6	300	16	6B16 x 9m	—	0.600	
	Total	248				

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today: 4

To Date: 4P.

Drawing No./Rev.

Cubes Made By: 5 MORAN

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
6	LOAD 2	CB1	200		

Pump Type: PUTZMEISTER

Efficiency (%): .....

Calibration Date: .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name: DAVE

Van Elle Operative Name: C. SPACEY

Client Position: SUP

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 15/11/22

Signature (Client): ..... **Date:** 15/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 12	Contract: ST VINCENT ST	Job No.: 214410
Date: 15/11	Start Time: 7:30.	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
29	300	16	6B12 x 6m	—	0.300	
27	300	16	6B12 x 6m	—	0.300	
1	300	16	6B12 x 6m	—	0.300	
2	300	16	6B12 x 6m	—	0.300	
3	300	16	6B12 x 6m	—	0.300	
4	300	16	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.:			Pile Schedule Issue Date:		
Today:	To Date:		Drawing No./Rev.		
Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes / No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: DNOLAN

Van Elle Operative Name: C. SPACEY Client Position: Engineer

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** .....

Signature (Client): ..... **Date:** 15/4/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 12A	Contract: ST VINCENT ST	Job No.: 216610
Date: 18/11	Start Time:	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
42	300	16	6B12 x 6m	–	0-300	APARTMENTS
43	300	16	6B12 x 6m	–	0-300	
44	300	16	6B12 x 6m	–	0-300	
45	300	16	6B12 x 6m	–	0-300	
29	300	16	6B12 x 6m	–	0-300	
[illegible]						
	Total					

Pile Schedule Rev. No.:			Pile Schedule Issue Date:		
Today:	To Date:		Drawing No./Rev.		
Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes / No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name: [signature]

Van Elle Operative Name: C. SPACEY

Client Position: [signature]

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL):	**Date:**	**Signature (Client):**	**Date:**
[signature]	18/11	[signature]	18/4/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 1	Contract: ST VINCENT ST	Job No.: 216410
Date: 28/10/22	Start Time: 7:30	Finish Time: 17:30

					CONCRETE DETAILS	
Pile Dia. (mm)						
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M³
Piles Remaining					Qty. Rejected Today	M³☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
9	300	13.75	6B12×6m	~	0.300	BLOCK 6
8	300	13.75	6B12 - 6m	—	0.300	
7	300	13.75	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.: 19/10/22 — Pile Schedule Issue Date: R1

Today: 4 — To Date: 4 — Drawing No./Rev. R.B.12490/300

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type: PUT21006

Efficiency (%): 90

Calibration Date:

General Remarks (including instructions received)

I Confirm this is a true Record: -

Client Name: D NOLAN

Van Elle Operative Name:

Client Position: S.M.

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): **Date:** **Signature (Client):** **Date:**

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 2	Contract: DOWNLEY DRIVE	Job No.: 214410
Date: 31/10/22	Start Time: 8.45 1st load	Finish Time: 17.00

Pile Dia. (mm)	300				CONCRETE DETAILS	
Total Piles in Contract					Supplier	Cemex.
Piles Installed Today	24				Mix Details	
Total Installed to Date	27				Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type: SF50 # 6					Rig Hours: 11519

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
P06	300	13.75	6 B12 x 6m	N/A	0.300	BLOCK 6
P08	300	13.75	6 B12 x 6m	-:-	0.400	BLOCK 5
P07	300	13.75	6 B12 x 6m	-:-	0.400	BLOCK 5
P15	300	13.75	6 B12 x 6m	-:-	0.300	BLOCK 6
P14	300	13.75	6 B12 x 6m	-:-	0.300	BLOCK 6.
P13	300	13.75	6 B12 x 6m	-:-	0.300	BLOCK 6
P12	300	13.75	6 B12 x 6m	-:-	0.300	BLOCK 6
P11	300	13.75	6 B12 x 6m	-:-	0.300	BLOCK 6
P12	300	13.75	6 B12 x 6m	-:-	0.400	BLOCK 5
P11	300	13.75	6 B12 x 6m	-:-	0.400	BLOCK 5
P10	300	13.75	6 B12 x 6m	-:-	0.400	BLOCK 5
P20	300	13.75	6 B12 x 6m	-N/A-	0.300	BLOCK 6
Total 331						

Pile Schedule Rev. No.: 19/10/22		Pile Schedule Issue Date: R1	
Today: 4	To Date: 8	Drawing No./Rev. 19.B.12490/300	

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
AD Preston	4	8803790	P13 Block 6	190	✓	

Pump Type: Putz 1006	General Remarks (including instructions received): Blocked pumping through also blocked on 3rd load.
Efficiency (%): 93%	
Calibration Date: 31/10/22	I Confirm this is a true Record: - yes Client Name: D. NOLAN
	Van Elle Operative Name: SEAN Preston Client Position: S.M.

Pile Nos. Checked **(VEL)**	Yes ☑	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☑	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	Yes ☑	No ☐	(tick)
Fuel Bowser(s) Locked	Yes ☑	No ☐	(tick)	All Plant Locked & Keys Removed	Yes ☐	No ☑	(tick)
Rig Computer Safe	Yes ☑	No ☐	(tick)	Store Shed Locked and Protected	Yes ☑	No ☐	(tick)

Signed (VEL):	Date:	Signature (Client):	Date:
	31/10/22		

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 24	Contract: Downley Drive	Job No.: 21441O
Date: 31/10/22	Start Time: 8A5 Bt load.	Finish Time: 17:00 (Dark)

Pile Dia. (mm)	300				CONCRETE DETAILS	
Total Piles in Contract					Supplier	Cemex
Piles Installed Today	24				Mix Details	
Total Installed to Date	27				Qty. Delivered Today	M³
Piles Remaining					Qty. Rejected Today	M³ ☐ Reason
	Rig Type: SF 50 #6					Rig Hours: 11519

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
P19	300	13.75	6 B12 x 6m	-N/A	0.300	Block 6
P18	300	13.75	6 B12 x 6m	—	0.300	Block 6
P17	300	13.75	6 B12 x 6m	—	0.300	Block 6
P16	300	13.75	6 B12 x 6m	—	0.300	Block 6
P16	300	13.75	6 B12 x 6m	—	0.400	Block 5
P15	300	13.75	6 B12 x 6m	—	0.400	Block 5
P14	300	13.75	6 B12 x 6m	—	0.400	Block 5
P13	300	13.75	6 B12 x 6m	—	0.400	Block 5
P9	300	13.75	6 B12 x 6m	—	0.400	Block 5
P20	300	13.75	6 B12 x 6m	—	0.500	Block 4
P15	300	13.75	6 B12 x 6m	—	0.500	Block 4
P19	300	13.75	6 B12 x 6m	-N/A-	0.500	Block 4
33	Total					

Pile Schedule Rev. No.: 19/10/22		Pile Schedule Issue Date: R1	
Today: 4	To Date: 8	Drawing No./Rev. 19.B.12490/300	

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
ADV Preston	4	8803790	P13 Block 6	190	—	

Pump Type: Putz 100Z

Efficiency (%): 73%

Calibration Date: 31/10/22

General Remarks (including instructions received)

I Confirm this is a true Record: - Yes — Client Name: D Nolan

Van Elle Operative Name: John Preston — Client Position: S M

Pile Nos. Checked **(VEL)**	Yes ☑	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☑	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	Yes ☑	No ☐	(tick)
Fuel Bowser(s) Locked	Yes ☑	No ☐	(tick)	All Plant Locked & Keys Removed	Yes ☑	No ☐	(tick)
Rig Computer Safe	Yes ☑	No ☐	(tick)	Store Shed Locked and Protected	Yes ☐	No ☐	(tick)

Signed (VEL):	Date:	Signature (Client):	Date:
J Preston	31/10/22	D Nolan	

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 3	Contract: ST VINCENT ST	Job No.: 216610
Date: 1/11/22	Start Time: 7:30	Finish Time: 13:30

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today	20				Mix Details	
Total Installed to Date	47				Qty. Delivered Today	5.1 M³
Piles Remaining					Qty. Rejected Today	M³ ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
14	300	13.75	6B12x6m	—	0.500	BLOCK 4
10	300	13.75	6B12x6m	—	0.500	
16	300	13.75	6B12x6m	—	0.500	
11	300	13.75	6B12x6m	—	0.500	
12	300	13.75	6B12x6m	—	0.500	
17	300	13.75	6B12x6m	—	0.500	
18	300	13.75	6B12x6m	—	0.500	
13	300	13.75	6B12x6m	—	0.500	
6	300	13.75	6B12x6m	—	0.500	
7	300	13.75	6B12x6m	—	0.500	
1	300	13.75	6B12x6m	—	0.500	
2	300	13.75	6B12x6m	—	0.500	
	Total					

Pile Schedule Rev. No.: 19/10/22	Pile Schedule Issue Date: P1
Today: 4	To Date: 12
	Drawing No./Rev. 19.B.12690/300

Cubes Made By: S MORRIS

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
4					

Pump Type: PUTZMEISTER

Efficiency (%): 90

Calibration Date:

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name:

Van Elle Operative Name: C SPICKEY

Client Position:

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL):	**Date:**	**Signature (Client):**	**Date:**
	1/11/22		1/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 3A	Contract: VINCENT ST	Job No.: 214410.
Date: 1/11/22	Start Time: 7:30	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
3	300	13.75	6B12 x 6m	—	0.500	BLOCK 4
5	300	13.75	6B12 x 6m	—	0.400	BLOCK 5
6	300	13.75	6B12 x 6m	—	0.400	
4	300	13.75	6B12 x 6m	—	0.500	BLOCK 4
5	300	13.75	6B12 x 6m	—	0.500	1
1	300	13.75	6B12 x 6m	—	0.400	BLOCK 5
2	300	13.75	6B12 x 6m	—	0.600	
3	300	13.75	6B12 x 6m	—	0.600	
	Total					

Pile Schedule Rev. No.: ..... Pile Schedule Issue Date: .....

Today: To Date: Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: .....

Van Elle Operative Name: C. SPACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 1/11/22 **Signature (Client):** ..... **Date:** 2/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 4	Contract: VINCENT ST	Job No.:
Date: 2/11/22	Start Time: 7.30	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	CEMEX
Piles Installed Today	22				Mix Details	
Total Installed to Date	69.				Qty. Delivered Today	31 M³
Piles Remaining					Qty. Rejected Today	M³ ☐ Reason
	Rig Type: SR50/6					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc..
8	300	13.75	6B12 x 6m	—	0.500	BLOCK 6
9	300	13.75	6B12 x 6m	—	0.500	
10	300	13.75	6B12 x 6m	—	0.300	BLOCK 6
5	300	13.75	6B12 x 6m	—	0.300	
4	300	13.75	6B12 x 6m	—	0.300	BLOCKED PEDPILE
3	300	13.75	6B12 x 6m	—	0.300	BLOCKED PEDPILE
2	300	13.75	6B12 x 6m	—	0.300	
1	300	13.75	6B12 x 6m	—	0.300	
4	300	13.75	6B12 x 6m	—	0.400	BLOCK 4
5	300	13.75	6B12 x 6m	—	0.400	BLOCK 1
10	300	13.75	6B12 x 6m	—	0.600	
9	300	13.75	6B12 x 6m	—	0.600	
	Total					

Pile Schedule Rev. No.: 19/10/22 — Pile Schedule Issue Date: R1

Today: 4 — To Date: 16 — Drawing No./Rev. 19.B.12490/300

Cubes Made By: S MORRELL

No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
6	LOAD 2	BLOCK 6 PILES	200	✓	

Pump Type: PUTZMEISTER

Efficiency (%): 90

Calibration Date:

General Remarks (including instructions received)

I Confirm this is a true Record: KS — Client Name:

Van Elle Operative Name: C. SPACEY — Client Position:

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	(tick)
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	(tick)	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	(tick)
Rig Computer Safe	**Yes** ☐	**No** ☐	(tick)	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	(tick)

Signed (VEL): — **Date:** 21/11/22 — **Signature (Client):** — **Date:** 2/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 4A	Contract: VINCENT ST	Job No.: 214410.
Date: 2/11/22	Start Time:	Finish Time: 19:00

Pile Dia. (mm)	300				**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type: SF30 - 6					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
4	300	13.75	6B12 x 6m	—	0.600	BLOCK 1
8	300	13.75	6B12 x 6m	—	0.600	
3	300	13.75	6B12 x 6m	—	0.600	
15	300	13.75	6B12 x 6m	—	0.600	
14	300	13.75	6B12 x 6m	—	0.600	
13	300	13.75	6B12 x 6m	—	0.600	
2	300	13.75	6B12 x 6m	—	0.600	
7	300	13.75	6B12 x 6m	—	0.600	
20	300	13.75	6B12 x 6m	—	0.600	
19	30	13.75	6B12 x 6m	—	0.600	
	Total					

Pile Schedule Rev. No.:			Pile Schedule Issue Date:		
Today:	To Date:		Drawing No./Rev.		
Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes / No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: .....

Van Elle Operative Name: C. SPACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 2/11/22

Signature (Client): ..... **Date:** 2/11/22.

3.1.4

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 5	Contract: ST VINCENT SC	Job No.: 214410.
Date: 3/11/22	Start Time: 7:30	Finish Time: 17:30

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type: SFS016					Rig Hours: 8545.

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
18	300	13.75	6B12×6m	—	0.600	BLOCK 1
17	300	13.75	6B12×6m	—	0.600	
12	300	13.75	6B12×6m	—	0.600	
16	300	13.75	6B12×6m	—	0.600	
11	300	13.75	6B12×6m	—	0.600	
6	300	13.75	6B12×6m	—	0.600	
1	300	13.75	6B12×6m	—	0.600	
5	300	13.75	6B12×6m	—	0.300	BLOCK 2
10	300	13.75	6B12×6m	—	0.300	
* 9	300	13.75	6B12×6m	—	0.300	
4	300	13.75	6B12×6m	—	0.300	
8	300	13.75	6B12×6m	—	0.300	
	Total					

Pile Schedule Rev. No.: ..... Pile Schedule Issue Date: .....

Today: 4 To Date: 20 Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No
A PRESTON	4	LOAD 2	PILE 11	190	✓	
			BLOCK 1			

Pump Type: PUTZMEISTER

Efficiency (%): 90

Calibration Date: .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: .....

Van Elle Operative Name: C. STACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ✓ **Date:** 3/11/22 **Signature (Client):** **Date:** 4/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 5A	Contract: ST VINCENT ST	Job No.: 21441O
Date: 31/11/22	Start Time:	Finish Time:

Pile Dia. (mm)					CONCRETE DETAILS	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
3	300	13.75	6B12 x 6m	—	0.300	BLOCK 2
7	300	13.75	6B12 x 6m	—	0.300	Refill
2	300	13.75	6B12 x 6m	—	0.300	
6	300	13.75	6B12 x 6m	—	0.300	
15	300	13.75	6B12 x 6m	—	0.300	
14	300	13.75	6B12 x 6m	—	0.300	
13	300	13.75	6B12 x 6m	—	0.300	
12	300	13.75	6B12 x 6m	—	0.300	
11	300	13.75	6B12 x 6m	—	0.300	
20	300	13.75	6B12 x 6m	—	0.300	
19	300	13.75	6B12 x 6m	—	0.300	
18	300	13.75	6B12 x 6m	—	0.300	
	Total					

Pile Schedule Rev. No.:		Pile Schedule Issue Date:			
Today:	To Date:	Drawing No./Rev.			
Cubes Made By	No. / Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type .....

Efficiency (%) .....

Calibration Date .....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES Client Name: .....

Van Elle Operative Name: C SPACEY Client Position: .....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL):	**Date:**	**Signature (Client):**	**Date:**
.....	31/11/22	.....	4/11/22

VAN ELLE
TOTAL FOUNDATION SOLUTIONS

CFA DAILY RECORD SHEET

CON59 26.11.2018

Record No.: 5B	Contract: SC CONCEPT SC	Job No.:
Date: 3/11/22	Start Time:	Finish Time:

Pile Dia. (mm)					**CONCRETE DETAILS**	
Total Piles in Contract					Supplier	
Piles Installed Today					Mix Details	
Total Installed to Date					Qty. Delivered Today	M^3
Piles Remaining					Qty. Rejected Today	M^3 ☐ Reason
	Rig Type:					Rig Hours:

Pile No/Ref	Dia. (mm)	Length (m)	Main Steel No/Type/Dia./Length	Tension Steel	De-bonding Details	Remarks, Obstructions, etc...
17	300	13.75	6B12 6m	—	0.300	
16	300	13.75	6B12 6m	—	0.300	
20	300	13.75	6B12 6m	—	0.600	BLOCK #3
	Total					

Pile Schedule Rev. No.: .....

Pile Schedule Issue Date: .....

Today:

To Date:

Drawing No./Rev.

Cubes Made By	No.	Ticket No.	Pile Ref:	Slump Test	Yes	No

Pump Type

.....

Efficiency (%)

.....

Calibration Date

.....

General Remarks (including instructions received)

I Confirm this is a true Record: - YES

Client Name:.....

Van Elle Operative Name: C. SPACEY

Client Position:.....

Pile Nos. Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Nos. Checked **(Client)**	Yes ☐	No ☐	(tick)
Pile Depth Checked **(VEL)**	Yes ☐	No ☐	(tick)	Pile Depth Checked **(Client)**	Yes ☐	No ☐	(tick)
END OF DAY SITE CHECK				All Bores Filled & Made Safe	**Yes** ☐	**No** ☐	**(tick)**
Fuel Bowser(s) Locked	**Yes** ☐	**No** ☐	**(tick)**	All Plant Locked & Keys Removed	**Yes** ☐	**No** ☐	**(tick)**
Rig Computer Safe	**Yes** ☐	**No** ☐	**(tick)**	Store Shed Locked and Protected	**Yes** ☐	**No** ☐	**(tick)**

Signed (VEL): ..... **Date:** 3/11/22

Signature (Client): ..... **Date:** 4/11/22

APPENDIX 7 – BLOCK PLAN



GA Site Setting Out

1 : 200

Note:
Do Not Scale from this drawing.
Dimensions are to be checked on site.
If in doubt please ask.

NOTE:

All construction shall be undertaken and completed in strict accordance with all drawings, specifications, statutory Building and Planning regulations, Health and Safety regulations, all relevant codes of practice requirements and manufacturers' recommendations and instructions.

Any discrepancies in constructional information should be reported immediately to the Architect prior to commencement of any work.

NUMBER ALLOCATION:

000 - 200 - Planning drawings
300 - House Block drawings
400 - Apartment Block drawings
500 - Individual House Type drawings (in abeyance)

REFER TO:

- (04) 301-302 - Slab Setting Out Plans
- (04) 310-330 - GA + Masonry and Partition Setting Out Plans
- (05) 310-361 - GA Elevations
- (06) 310-330 - GA Sections
- (08) 310-330 - Fire Strategy Plans

NOTE:

- Block 1 and 3 are identical, and contain an additional en-suite
- Block 2 contains a break in slab level, and contains an additional en-suite
- Block 4 and 6 do not contain the extra en-suite
- Block 5 consists of 3 houses only

Rev	Date	Intls	Details
C	11/07/22	MG	Plot numbers added
B	17/06/22	OM	Grid & wall/floor type/levels update
A	13/05/22	JE	First Stage 4 issue

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greatplaces HOUSING GROUP

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Project Title	Downley Drive
Client	Great Places
Location	Ancoat - Manchester
Drawing ref	Proposed 0F Site Plan - Blocks
Date	11/07/2022 14:55:36
Scale	1 : 200
Checker	MG
Orig Paper Size	A1
Job No:	8801
Status	STAGE 4

Project: Origin: Zone: Level: Type: Disc: Number: Rev:

8801-BA-00-0F-DR-A- (04) 300- C