



Norwich Western Link

Environmental Statement

Chapter 13: Geology and Soils

Appendix 13.7: Foxburrow Stream Preliminary Contamination Assessment

Sub Appendix C: Factual Report

Author: WSP

Document Reference: 3.13.07c

Version Number: 00

Date: March 2024






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1 Introduction


- 1.1.1 This report relates to the ground investigation works undertaken at Foxburrow Plantation, south of The Broadway, Norwich, NR9 5AU (nearest postcode). Soil samples from 12 locations, and surface water samples from at three locations were collected and sent for laboratory testing. This report provides an overview of the methodology used for sample collection, and a summary of the data obtained from the sample testing. Further information is presented in the appendices to this report, which include a plan showing sampling locations and records of the raw data.
- 1.1.2 We have included a summary of key information shown in this document in an accessible format in section 1.1.1. However, some users may not be able to access all technical details that are included in the rest of this document. If you require this document in a more accessible format, please contact norwichwesternlink@norfolk.gov.uk

	
	<h2 style="margin: 0;">NORWICH WESTERN LINK</h2>

DOCUMENT TITLE*:
<h1 style="margin: 0;">Factual Ground Investigation Report – Foxburrow Plantation Contamination Campaign</h1>

DOCUMENT NUMBER*	NCCT41793-HAG-VGT-FSC-RP-GI-0006
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STATUS*	S4 - Suitable for Review and Authorisation (Lead Appointing Party)	Date*:	17/04/2023
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ASITE Task ID:			

Prepared by*	Checked by*	Approved by*
		
Rachael Leech Senior Geotechnical Engineer	David Ruiz Site Agent	Francisco Quesada Engineering Manager

*Details correct at time of upload to ASITE. Check ASITE for current document status, and Workflows Approval
 *Note that Asite 'Purpose of Issue' Attribute is the same as the ISO19650 'STATUS'

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Revision History			
Rev No	Date	Summary of Changes	Section or Page Number
P01	17/04/23	First Issue - Draft	Not Applicable

2. Contents

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3. Annex A – Factual Ground Investigation Report – Foxburrow Plantation Contamination Campaign

Document: Factual Ground Investigation Report
Foxburrow Plantation Contamination Campaign

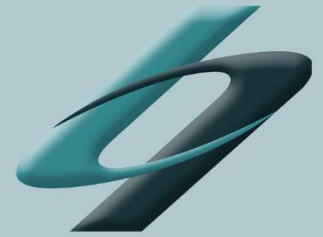
Project: Norwich Western Link – Foxburrow Plantation
Contamination Campaign

Reference No.: NCCT41793_GI-FPCC

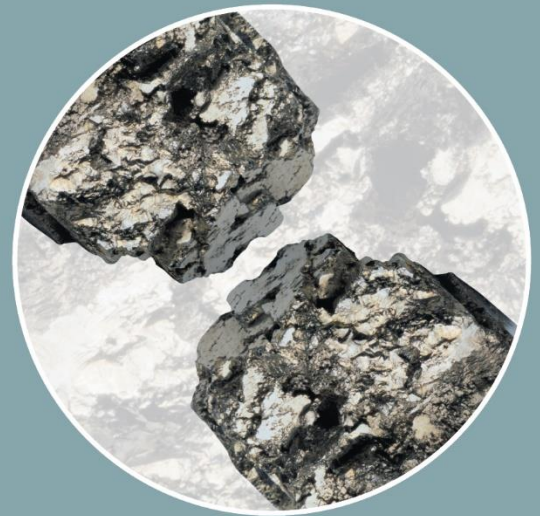
Date: April 2023

Prepared for: Ferrovial Construction (UK) Limited

**Investigation
Supervisor:** WSP UK Limited



harrisongeotechnical
ENGINEERING



HARRISON GROUP ENVIRONMENTAL LIMITED

Document: Factual Ground Investigation Report – Foxburrow Plantation Contamination Campaign

Project: Norwich Western Link – Foxburrow Plantation Contamination Campaign

Reference No.: NCCT41793_GI-FPCC

Date: April 2023

Prepared For: Ferrovial Construction (UK) Limited

Investigation Supervisor: WSP UK Limited

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Revision	Comments	Prepared By	Approved By	Issued By	Audited By
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FOREWORD

General Conditions Relating to Ground Investigation

This geotechnical investigation has been devised to generally comply with the relevant principles and requirements of BS EN 1997-1:2004, 'Eurocode 7: Geotechnical design - Part 1: General rules' and BS EN 1997-2:2007, 'Eurocode 7 - Geotechnical design - Part 2: Ground investigation and testing'.

Boring, sampling and field test procedures are undertaken in accordance with BS 5930:2015 + A1:2020, 'Code of Practice for Ground Investigations' and other applicable standards as referenced. Likewise in-situ and laboratory testing complies with BS1377:1990, 'Methods of Tests for Soils for Civil Engineering Purposes', unless stated otherwise in the text.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal rate of drilling does not necessarily permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions.

Some items of the investigation have been provided by third parties and whilst Harrison Group have no reason to doubt the accuracy, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report.

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FACTUAL GROUND INVESTIGATION REPORT
FOXBURROW PLANTATION CONTAMINATION CAMPAIGN
FOR THE
NORWICH WESTERN LINK

1. TERMS OF REFERENCE & INTRODUCTION

The work covered by this report was undertaken on behalf of Ferrovial Construction (UK) Limited (Ferrovial) by Harrison Group Environmental Ltd (HGE). WSP UK Limited (WSP) acted as the Engineer and Investigation Supervisor for the ground investigation works.

The ultimate client, Norfolk County Council, had appointed Ferrovial as the Contractor for the design and construction of the Norwich Western Link road project and the ground investigation works were required to aid in the development of the detailed design. The proposed development known as the Norwich Western Link comprises the construction of a new section of dual carriage highway linking between the existing A47 road southwest of the site to the existing A1067 Fakenham Road present within the northeast of the site. The design proposal includes a number of cuttings, embankments, drainage features, underpasses and bridge structures including a proposed viaduct crossing over the Wensum Valley floodplain in Ringland.

Five phases of ground investigation have been undertaken to date by HGE as summarised within table 1 below.

Investigation Phase	Ferrovial Specification Reference	HGE Report Reference	Report Date
Norwich Western Link	NCCT41793-RAM-GEN-FSC-SP-GI-0002, revision: P01 dated 23rd July 2021	NCCT41793_GI	February 2022
Alignment Refinement Campaign	NCCT41793-RAMGEN-FSC-SP-GI-0002, revision: P04 dated 8th April 2022	NCCT41793_GI_AR	October 2022
Woodland Campaign	NCCT41793-RAMGEN-FSC-SP-GI-0002, revision: P06 dated 17th August 2022	NCCT41793_GI_AR-WC	November 2022
Foxburrow Plantation Contamination Campaign	Emailed Specification Instruction	NCCT41793_GI-FPCC	April 2023
Spring 2023 Campaign	NCCT41793-RAM-GEN-FSC-SP-GI-0003, revision: P03 dated 3rd February 2023	NCCT41793_GI_SC	<i>Due May 2023</i>

Table 1: Summary of phases of ground investigation undertaken to date.

These phases of works have been undertaken to provide factual geotechnical and geo-environmental data specific to the proposed route of new road. These previous ground investigation reports should be read in conjunction with this report to provide further information regarding the context of the ground investigation undertaken and geological setting of the site area.

Work carried out and included within this report have been undertaken and reported separately to those works completed under the phases of works detailed in Table 1 above. The ground investigation was undertaken concurrently with works associated with the Spring 2023 Campaign.

A series of hand excavated trial pits and surface water samples were required to obtain soil and groundwater samples surrounding a stream located within an area of woodland known as Foxburrow Plantation. It is understood the purpose of the works was to obtain samples to allow for the analysis and assessment for the potential contamination to be present that may be associated with an historic Sewage Treatment Works within the Foxburrow Plantation area. The location of the site is presented on appended drawing GN24456-DR702 included within Appendix A.

The engineer (WSP) specified the laboratory testing for the scheme which was carried out by Harrison Group's specialist subcontractor I2 Analytical Ltd.

2. FIELDWORK

Details of the ground investigation methods employed have been presented on the appended data sheet and a summary of the fieldwork has been presented below.

The intrusive investigation was designed to provide good coverage of the ground conditions across the site. The scope of the site works was generally in accordance with that proposed by WSP and included the following:

- Service clearing and setting out of the exploratory locations (carried out by Safe Dig Ltd)
- Hand Excavated Trial Pitting (12 No. to a maximum depth of 1.20mbgl)
- Surface Water Sampling (3 No. locations)

The intrusive fieldwork was carried out by HGE between the 16th and 17th March 2023. All exploratory locations are detailed on the appended drawing GN24456-DR702 presented in Appendix A.

In addition to consulting all available service plans and lifting all available covers prior to intrusive activities taking place, service clearance was carried out using a Cable Avoidance Tool.

The sampling strategy and locations were designed and provided by WSP, taking into account local site constraints including reference to topography of the site, the geology encountered and the location of the stream within Foxburrow Plantation.

The Investigation Supervisor (WSP) provided full time supervision during the excavation works and specified the frequency of environmental samples to be obtained during each hand excavated pit based on the ground conditions observed.

Environmental samples were dispatched to the chemical testing laboratory using cool boxes and ice blocks. Chain of Custody (CoC) Sheets were prepared, copies of which accompanied the samples.

2.1 Surveying

Exploratory locations were surveyed whilst undertaking a utility clearance survey on 13th March 2023 to establish co-ordinates and ground levels. Any changes to proposed exploratory positions were discussed and confirmed with WSP via subsequent email and telephone conversations.

A single location, HD8, was proposed within the far southeast of the site along the northern side of the stream opposite location HD12. However, due to dense vegetation and fenced areas this location was unable to be undertaken and cancelled by WSP.

The finalised locations are presented on the exploratory location plan GN24456-DR702 presented in Appendix A. Co-ordinates and ground levels are detailed both below and on the appended hand excavated logs presented in Appendix B.

2.2 Hand Excavated Trial Pits

12 No. hand excavated trial pits (HD1-HD10A, excl. HD8 and HD11 to HD12), were excavated with hand tools to a maximum depth of 1.20mbgl, to sample, test and log the subsoils present. Environmental samples were collected upon instruction of the Investigation Supervisor (WSP) with each sample screened within a photo ionisation detector (PID) for the presence of volatiles. The ground conditions encountered along with groundwater strikes and the results of the PID screening of samples detailed on the appended trial pit logs presented in Appendix B.

A summary of the hand excavated trial pitting undertaken is presented in Table 2.2 below.

Trial Pit No.	Easting	Northing	Surface Level (maOD)	Depth (mbgl)	Detail
HD1	610371.91	313472.59	37.64	1.10	North of Stream
HD2	610240.70	313542.16	39.30	1.20	North of Stream
HD3	610231.32	313534.30	39.32	1.20	South of Stream
HD4	610335.12	313481.07	38.11	1.10	South of Stream

Trial Pit No.	Easting	Northing	Surface Level (maOD)	Depth (mbgl)	Detail
HD5	610455.49	313416.41	37.00	1.20	North of Stream
HD6	610604.09	313261.80	35.34	1.10	North of Stream
HD7	610668.88	313214.78	34.81	1.20	North of Stream.
HD9	610438.36	313409.09	37.31	1.10	South of Stream
HD10	610561.30	313285.97	35.56	1.00	North of Stream
HD10A	610559.93	313274.19	35.34	1.10	South of Stream
HD11	610642.51	313235.54	35.03	1.10	South of Stream
HD12	610883.17	313165.33	32.99	1.10	South of Stream

Table 2.2: Summary of Hand Excavated Trial Pits

A detailed description of all the strata encountered, position and types of samples taken, tests performed; along with any groundwater observations made at the time of excavation are included on the trial pit logs presented in Appendix B.

2.3 Surface Water Samples

3 No. surface water samples were collected from the stream within the vicinity of the Foxburrow Plantation at the sampling points identified on appended drawing GN24456-DR702 presented in Appendix A. A summary of the samples collected is presented in Table 2.3.

Sampling Point	Easting	Northing	Surface Level (maOD)	Depth (mbgl)	Detail
SW1	610232.48	313713.61	-	N/A	Upstream of the former sewage treatment works
SW2	610752.96	313223.72	-	N/A	Downstream of the former sewage treatment works
SW3	610306.84	313500.61	-	N/A	Nearest the former sewage treatment works

Table 2.3: Summary of Surface Water Sampling

3. CHEMICAL LABORATORY TESTING

3.1 Environmental Laboratory Testing

Environmental laboratory testing was scheduled by WSP on selected soil, and groundwater samples recovered from the exploratory holes and monitoring wells.

The type and quantity of environmental laboratory testing undertaken is summarised below in Table 3.1. The results of the testing are presented in Appendix C.

Test Type	Number of Tests
Soil	
L5 – Soil Metals – arsenic, barium, beryllium, cadmium, chromium, chromium VI, copper, lead, mercury, nickel, selenium, vanadium and zinc. Organic Compounds – TPHs, BTEX, PAHs, VOCs and SVOCs pH, cyanide (free and total), water-soluble boron and sulphate Ammoniacal Nitrogen (NH ₄)	16

<u>Leachate</u>	
<u>L5 – Soil Leachate</u> Leachate Preparation Metals – arsenic, barium, beryllium, cadmium, chromium, chromium VI, copper, lead, mercury, nickel, selenium, vanadium and zinc. Organic Compounds – TPHs, BTEX, PAHs, VOCs and SVOCs pH, cyanide (free and total), water-soluble boron and sulphate Ammoniacal Nitrogen (NH ₄)	8
<u>Water</u>	
<u>Suite F</u> Metals – arsenic, boron, cadmium, chromium, copper, lead, mercury, nickel and zinc. Organic Compounds – TPHs, PAHs, phenols Cyanide Ammoniacal Nitrogen (NH ₄)	3

Table 3.1: Summary of Environmental Testing

Report prepared by:



Rachael Leech BSc (Hons.) FGS
Senior Geotechnical Engineer

Report checked by:



John Keay BSc (Hons) FGS
Director

REFERENCES

BS 5930: 2015 + A1: 2020, '*Code of Practice for Ground Investigations*'.

BS EN 10175: 2011 + A2: 2017, '*Investigation of Potentially Contaminated Sites – Code of Practice*'.

LIST OF APPENDICES

APPENDIX A: DRAWINGS

Fieldwork Location Plan – (GN24456 – DR702)

APPENDIX B: EXPLORATORY HOLE RECORDS

Data Sheet: Site Investigation Methods

Hand Excavated Trial Pit Records

APPENDIX C: LABORATORY TESTING REPORTS

Chemical Laboratory Test Results

4. Annex B – Zipped Appendices

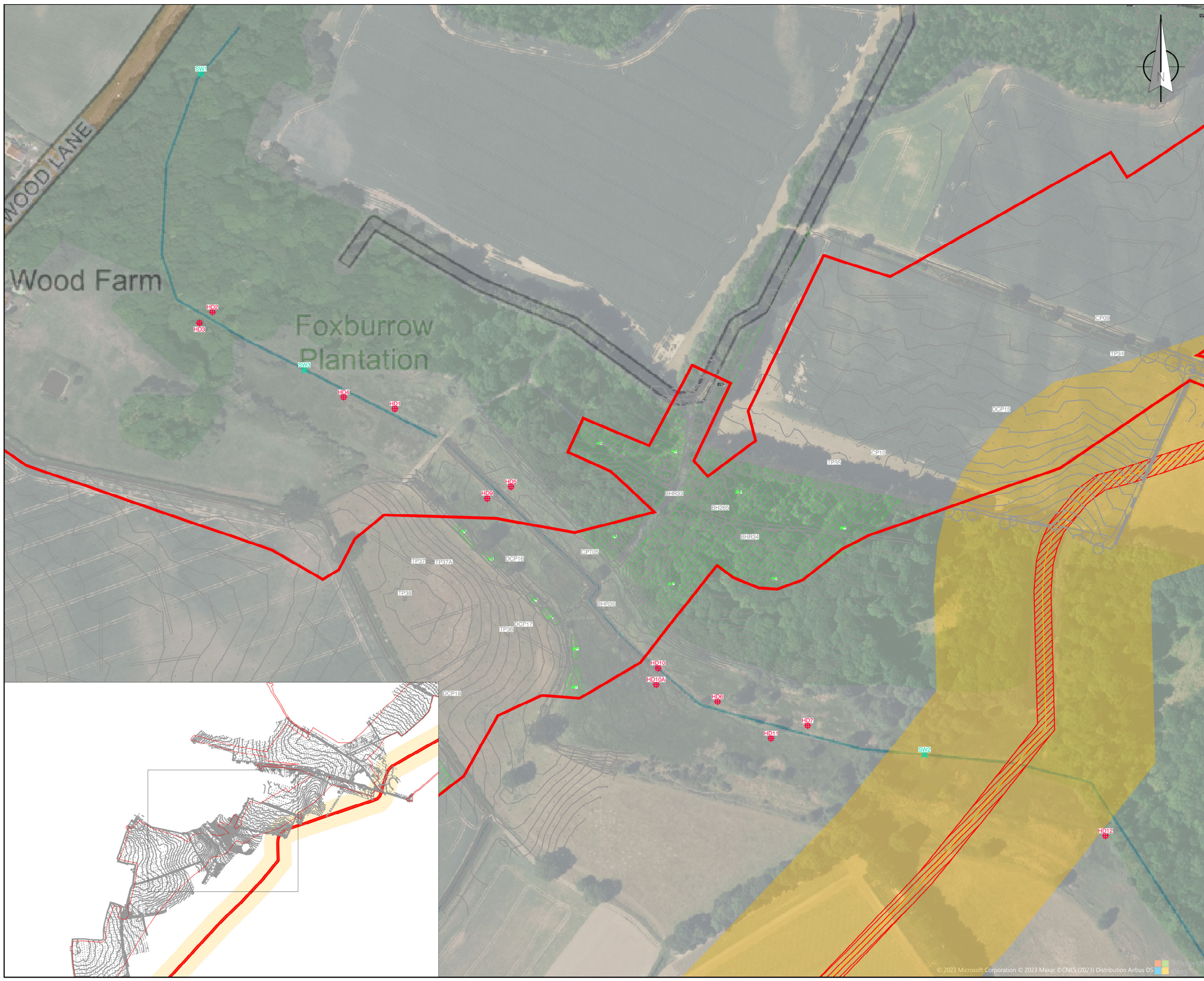
APPENDIX A

DRAWINGS

Fieldwork Location Plan

GN24456 – DR702

FN-H-0-0004 N:\Newfields\Projects\Jobs 24000\244100\GN24456 Norwich Western Link Spring 23 Campaign\Drawings\CAD Files\GN24456 - DR702.dwg



Key :

- Site Boundary
- HD1 Hand Excavated Trial Pit
- SW1 Surface Water Sampling Location

Investigation Undertaken As Part Of Previous Phases

- CP01 Cable Percussive Borehole
- BH206 Cable Percussive followed by Rotary Cored Borehole
- DCP201 Dynamic Cone Penetrometer Test
- WS201 Dynamic Continuous Sampling Borehole
- TP201 Machine Excavated Trial Pit with Plate Loading Test and Sand Replacement Density Test
- TR201 Machine Excavated Trial Trench with Plate Loading Test and Sand Replacement Density Test
- TP205 Machine Excavated Trial Pit with Soakaway Test
- PC-001/DCP01 Pavement Core followed by Dynamic Cone Penetrometer Test
- BH210 Rotary Open-Hole Borehole
- CPT201 Static Cone Penetration Test
- Archaeological Trench (Not by Harrison Group)

 High Pressure Gas Main (Yellow Line) with Easement (Red Hatch) and Middle Zone (Yellow Hatch)

Notes :

ferrovial
construction

Client : Ferrovial Construction (UK) Limited
 Project : Norwich Western Link Project
 Job No : NCG141793 Date : April 2023
 Drawing Title : Fieldwork Location Plan - Foxburrow Plantation Contamination Campaign
 Drawing No : GN24456 - DR702
 Scale : 1:2500 @ A3
 Drawn by : CS Checked by : JK
 Eastings : 610960 Northings : 313616

Revision history

Rev	Date	Revision Data
P01	17/04/2023	First draft issue

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APPENDIX B

EXPLORATORY HOLE RECORDS

Data Sheet: Site Investigation Methods

Hand Excavated Trial Pit Records

DATASHEET: SITE INVESTIGATION METHODS

This datasheet provides basic details of the methods employed during the undertaking of site investigations. Detailed method statements may be provided if requested or further information may be obtained from the relevant British Standards or other quoted publications. Investigations are generally carried out in accordance with BS 5930:2015 + A1:2020, "Code of practice for ground investigations", BS 10175:2011+A2:2017, "Investigation of potentially contaminated sites – Code of Practice, and BS EN ISO 1997-2:2007, "Eurocode 7 – Geotechnical design – Part 2: Ground investigation and testing".

Prior to any excavation being undertaken, service plans are obtained and/or a service tracing team may be employed to locate and mark up service locations. A surface sweep using a cable avoidance tool (CAT) is undertaken, in order to avoid services and service inspection pits are generally hand excavated prior to commencing work with any mechanical plant.

GROUNDWATER MONITORING

Groundwater monitoring is undertaken using an electronic dip meter, which records the depth to water in a standpipe or monitoring well. Alternatively, down-hole pressure transducers can be utilised which can record variations over an extended period, which is particularly useful in monitoring variations due to tidal influences or when undertaking permeability tests or draw down tests or when undertaking soakaway testing. Where a non-aqueous phase liquid (e.g., floating hydrocarbon layer) is present, an interface meter is utilised to measure the thickness.

HAND EXCAVATED TRIAL PITS

Hand excavated pits may be undertaken for a variety of reasons, which include service observation pits, obtaining near surface samples, and examining foundations of existing buildings. Pits are excavated using a shovel, postholers and other suitable equipment. Shoring is necessary where pits are to be extended greater than 1.2m bgl and deep excavations may take a considerable time to undertake. Detailed records of hand excavated pits are only normally recorded where foundation depths and detailed information is required.

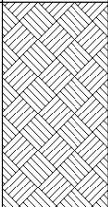

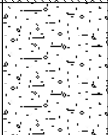
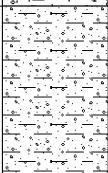
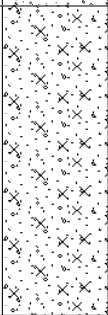
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Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 17/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Soft dark brown slightly gravelly silty CLAY. Gravel is sub-angular to sub-rounded fine to coarse flint and chalk. Occasional rootlets.			37.64	ES1 PID01	0.40 0.40	0.0ppm	
Grey to light brown clayey fine to coarse SAND and sub-angular to sub-rounded fine to coarse GRAVEL of flint and chalk.		0.65	36.99	ES2 PID02	0.80 0.80	0.1ppm	
Trial pit terminated at 1.10m: Groundwater encountered		1.10	36.54				▼


Weather: Cloudy and dry	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	17-03-2023	1.10			Fast flow

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Pit terminated early due to groundwater encountered. 2. Backfill: GL to 1.10m arisings.				
		Logged by: C. Cooper	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

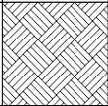

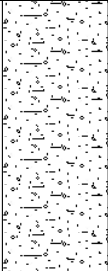
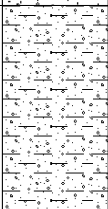

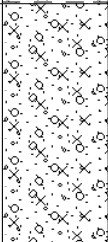
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Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 17/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Dark brown slightly gravelly very clayey fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint. Occasional rootlets.			39.30	ES1 PID01	0.20 0.20	0.0ppm	
Dark greyish brown slightly gravelly clayey fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint. Rare rootlets.		0.30	39.00				
Soft dark brown slightly gravelly very sandy CLAY. Gravel is sub-rounded to rounded fine and medium flint. Strong organic odour.		0.50	38.80	ES2 PID02	0.60 0.60	0.1ppm	
Greyish brown very gravelly silty fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse flint.		0.75	38.55	ES3 PID03	0.90 0.90	0.0ppm	
Trial pit terminated at 1.20m: Target depth		1.20	38.10				


Weather: Cloudy and dry	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	17-03-2023	1.00			Medium flow

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.20m arisings.				
		Logged by: T. Leather-Youngusband	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

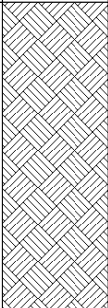

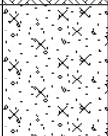

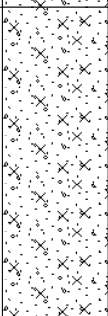


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Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 17/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse flint. Occasional rootlets.		0.15	39.17	ES1 PID01	0.20 0.20	0.0ppm	
Dark brown gravelly slightly clayey fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint. Rare rootlets.		0.55	38.77		ES2 PID02		
Soft dark brown slightly gravelly very sandy CLAY. Gravel is sub-rounded to rounded fine and medium flint. Strong organic odour.		0.85	38.47	ES3 PID03	1.00 1.00	0.3ppm	
Dark brownish grey very gravelly silty fine to coarse SAND with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse flint. Cobbles are flint.		1.20	38.12				
Trial pit terminated at 1.20m: Target depth							


Weather: Cloudy and dry	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	17-03-2023	1.20			Seepage

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.20m arisings.				
		Logged by: T. Leather-Youngusband	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610335.12	N: 313481.07
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 17/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Dark brown gravelly slightly silty fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse flint. Strong odour.			38.11	ES1 PID01	0.20 0.20	0.0ppm	
Greyish brown slightly gravelly silty fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse flint.		0.45	37.66	ES2 PID02	0.55 0.55	0.0ppm	
Greyish brown gravelly silty fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse flint.		0.65	37.46	ES3 PID03	0.75 0.75	0.0ppm	
Trial pit terminated at 1.10m: Target depth		1.10	37.01				

Weather: Cloudy and dry	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
	17-03-2023	0.50			Seepage
	17-03-2023	1.10			
Shoring Used:					

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.10m arisings.				
		Logged by: C. Cooper	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

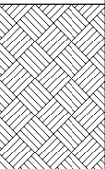



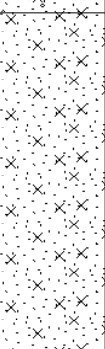


Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610455.49	N: 313416.41
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Soft dark brown slightly gravelly sandy CLAY. Gravel is sub-rounded to rounded fine to coarse flint. Weak organic odour.			37.00	ES1 PID01	0.20 0.20	0.0ppm	
Dark grey gravelly slightly clayey fine to coarse SAND with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse flint. Cobbles are flint.		0.50	36.50	ES2 PID02	0.70 0.70	0.0ppm	
Dark orangish brown very gravelly slightly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse flint.		0.80	36.20	ES3 PID03	1.00 1.00	0.0ppm	
Trial pit terminated at 1.20m: Target depth		1.20	35.80				


Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	16-03-2023	1.10			

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.20m arisings.				
		Logged by: T. Leather-Youngusband	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610604.09	N: 313261.80
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Plastic dark brown slightly sandy slightly gravelly clayey fibrous PEAT. Occasional rootlets and weak organic odour.		0.25	35.34	ES1 PID01	0.20 0.20	0.0ppm	
Dark brown slightly gravelly silty fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.		0.60	35.09	ES2 PID02	0.45 0.45	0.0ppm	
Dark greyish brown silty fine to coarse SAND and sub-rounded to rounded fine to coarse flint.		1.10	34.74				
Trial pit terminated at 1.10m: Groundwater encountered			34.24				

Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	16-03-2023	0.95			Medium flow

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
<p>Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com</p> 	<p>1. Pit terminated early due to groundwater encountered. 2. Backfill: GL to 1.10m arisings.</p>				
	Logged by: T. Leather-Youngusband	Checked by: R. Leech	Fm-Hn-R-3069-Rev E		

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610668.88	N: 313244.78
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	


Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Plastic dark brown slightly gravelly slightly clayey fibrous PEAT. Occasional rootlets and strong organic odour.			34.81				
Dark grey slightly gravelly silty fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.		0.30	34.51				
Plastic dark orangish brown sandy slightly clayey fibrous PEAT. Frequent compacted rootlets and strong organic odour.		0.45	34.36	ES1 PID01	0.50 0.50	0.2ppm	
Light grey very gravelly silty fine to coarse SAND. Gravel is sub-rounded fine to coarse flint.		0.65	34.16	ES2 PID02	0.70 0.70	0.0ppm	
Trial pit terminated at 1.20m: Target depth		1.20	33.61				

Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
	16-03-2023	0.25			Seepage
Shoring Used:	16-03-2023	0.75			Seepage

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.20m arisings.				
		Logged by: C. Cooper	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610886.35	N: 313160.74
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used:	Date:	

Geology Description	Legend	Depth	Elevation (maOD) 33.07	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	

Weather:	Water Strike				
Pit Stability:	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:					
Pit Dimensions:	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	 1. Location cancelled.				
					Logged by:

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610438.36	N: 313408.09
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
Grass over TOPSOIL. Greyish brown slightly gravelly to gravelly silty fine and medium SAND. Gravel is angular to sub-rounded fine to coarse flint. Occasional rootlets and roots ~4mm diameter.			37.32				
Dark grey slightly gravelly silty fine and medium SAND. Gravel is sub-angular to sub-rounded fine and medium flint. Occasional rootlets and roots ~5mm diameter.		0.20	37.12	ES1 PID01	0.30 0.30	0.0ppm	
Very soft dark grey slightly gravelly very sandy organic CLAY. Gravel is sub-angular to rounded fine to coarse flint. Rare cobble of flint. Occasional rootlets and roots ~4mm diameter.		0.50	36.82	ES2 PID02	0.60 0.60	0.1ppm	
Orangish brown and grey gravelly slightly silty fine and medium SAND. Gravel is sub-angular to rounded fine to coarse flint. Rare cobble of flint.		0.80	36.52				
Trial pit terminated at 1.10m: Target depth		1.10	36.22				

Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	16-03-2023	1.00			

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.10m arisings.				
	AGS	Logged by: J. Burch	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610561.30	N: 313285.97
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
Grass over TOPSOIL. Dark brown gravelly clayey fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint. Occasional rootlets.		0.10	35.46	ES1 PID01	0.20 0.20	0.0ppm	
Dark orangish brown very gravelly silty fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.		0.35	35.21				
Dark brown very gravelly clayey fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.		0.58	34.98				
Orangish brown gravelly silty fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.		1.00	34.56				
Trial pit terminated at 1.00m: Groundwater encountered							

Weather: Cloudy and wet	Water Strike				
Pit Stability: Slight instability from 0.90m	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
	16-03-2023	1.00			Fast flow
Shoring Used:					

Pit Dimensions: L: 0.30m x W: 0.30m		Remarks			
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com		1. Pit terminated early due to groundwater encountered. Water caused pit to become unstable. 2. Backfill: GL to 1.00m arisings.			
				Logged by: T. Leather-Youngusband	
					Fm-Hn-R-3069-Rev E

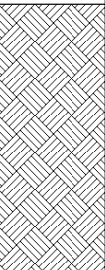

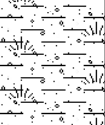


Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610559.93	N: 313274.19
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD) 35.34	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
Vegetation over TOPSOIL. Dark grey slightly gravelly silty fine and medium SAND. Gravel is sub-angular to sub-rounded fine to coarse flint. Occasional rootlets and roots.							
Very soft slightly gravelly sandy organic CLAY. Gravel is sub-angular to sub-rounded fine to coarse flint. Occasional fine rootlets ~2mm diameter. Weak organic odour.		0.40	34.94	ES1 PID01	0.50 0.50	0.5ppm	
Light grey gravelly silty fine and medium SAND with occasional pockets of soft grey clay. Gravel is sub-angular to sub-rounded fine to coarse flint.		0.75	34.59	ES2 PID02	0.90 0.90	0.0ppm	▼
Trial pit terminated at 1.10m: Target depth		1.10	34.24				


Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	16-03-2023	0.90			Fast flow

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.10m arisings.				
		Logged by: J. Burch	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610642.51	N: 313235.54
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
Grass over TOPSOIL. Dark greyish brown slightly gravelly silty fine and medium SAND. Gravel is sub-angular to sub-rounded fine to coarse flint. Occasional rootlets and roots ~4mm diameter.			35.03	ES1 PID01	0.20 0.20	0.0ppm	
Very soft brown slightly gravelly very sandy organic CLAY. Gravel is angular to sub-rounded fine to coarse flint. Occasional rootlets ~3mm diameter.		0.40	34.63				
Orangish brown very sandy sub-angular to rounded fine to coarse GRAVEL of flint.		0.60	34.43	ES2 PID02	0.70 0.70	0.0ppm	
Trial pit terminated at 1.10m: Target depth		1.10	33.93				

Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	16-03-2023	1.10			Seepage

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Backfill: GL to 1.10m arisings.				
		Logged by: J. Burch	Checked by: R. Leech	Fm-Hn-R-3069-Rev E	

Project ID: NCCT41793	Client: Ferrovial Construction (UK) Limited	E: 610883.17	N: 313165.33
Location: Norwich Western Link	Consultant: WSP UK Limited		
	Plant used: Hand Excavated	Date: 16/03/2023	

Geology Description	Legend	Depth	Elevation (maOD)	Sample / In-Situ Test Information			Installation & Backfill
				Type	Depth	Results / Remarks	
TOPSOIL. Dark brown slightly gravelly silty fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.			32.99				
Brown slightly gravelly silty fine to coarse SAND. Gravel is sub-rounded to rounded fine to coarse flint.		0.15	32.84	ES1 PID01	0.20 0.20	0.0ppm	
Orangish brown very sandy silty sub-rounded to rounded fine to coarse GRAVEL of flint.		0.50	32.49				
Soft to firm dark brownish grey slightly gravelly sandy CLAY. Gravel is sub-rounded to rounded fine and medium flint.		0.70	32.29	ES2 PID02	0.80 0.80	0.1ppm	
Trial pit terminated at 1.10m: Groundwater encountered		1.10	31.89				

Weather: Cloudy and wet	Water Strike				
Pit Stability: Stable	Date	Water Strike (m)	Time Elapsed (mins)	Standing Level (m)	Remarks
Shoring Used:	16-03-2023	0.90			Medium flow

Pit Dimensions: L: 0.30m x W: 0.30m	Remarks				
Norwich Office: 01603 613111 London Office: 020 7537 9233 Cambridge Office: 01223 781585 Colchester Office: 01206 986675 Testing Services: 01603 416333 E-mail: info@harrisingroupuk.com Website: www.harrisingroupuk.com	1. Pit terminated early due to groundwater encountered. 2. Backfill: GL to 1.10m arisings.				
	Logged by: T. Leather-Youngusband	Checked by: R. Leech	Fm-Hn-R-3069-Rev E		

APPENDIX C

LABORATORY TESTING

Chemical Laboratory Report ID's:
23-24111-3



Conrad Steward
Harrison Group
Kimbeley Street Norwich
NR2 2RJ

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

t: 01603 613111
f: 01603 618120
e: cad@harrisongroupuk.com

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-24111

Replaces Analytical Report Number: 23-24111, issue no. 2
Client references/information amended.
Sample ID amended for sample 2624088 as per client's request

Project / Site name:	Norwich Western Link Project	Samples received on:	21/03/2023
Your job number:	NCCT41793	Samples instructed on/ Analysis started on:	21/03/2023
Your order number:	GN24456 RL	Analysis completed by:	11/04/2023
Report Issue Number:	3	Report issued on:	17/04/2023
Samples Analysed:	8 leachate samples - 16 soil samples - 3 water samples		

Izabela Wójcik
Signed: _____
Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624074	2624075	2624076	2624077	2624078			
Sample Reference	HD1	HD1	HD10	HD10A	HD11			
Sample Number	1	2	1	1	1			
Depth (m)	0.40	0.80	0.20	0.50	0.20			
Date Sampled	17/03/2023	17/03/2023	16/03/2023	16/03/2023	16/03/2023			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	18	5.5	36	19
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

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	EC	EC	EC	EC	EC

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	5.4	7.2	7.7	6.1	5.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	31	27	9.6	180	13
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	0.014	0.0048	0.091	0.0067
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	15.6	13.5	4.8	90.7	6.7
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	8.4	1.9	1.4	11	3.8

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.38	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.31	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.18	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.83	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 23-24111
 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number	2624074		2624075		2624076		2624077		2624078	
Sample Reference	HD1		HD1		HD10		HD10A		HD11	
Sample Number	1		2		1		1		1	
Depth (m)	0.40		0.80		0.20		0.50		0.20	
Date Sampled	17/03/2023		17/03/2023		16/03/2023		16/03/2023		16/03/2023	
Time Taken	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status							

Heavy Metals / Metalloids

Element	Unit	Limit	Accreditation	2624074	2624075	2624076	2624077	2624078
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.4	2.4	6.7	16	4.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	22	7	9.8	31	14
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.34	0.11	0.28	0.23	0.22
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.3	< 0.2	0.8	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.2	< 0.2	0.7	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	2.8	U/S#	< 1.8	U/S#	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.3	3.3	12	11	7.6
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	2.9	5	11	4.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	3.5	8.3	10	26
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.7	2.9	7.4	14	4.8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	6.6	19	34	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	30	8.4	22	43	15

Monoaromatics & Oxygenates

Compound	Unit	Limit	Accreditation	2624074	2624075	2624076	2624077	2624078
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

Compound	Unit	Limit	Accreditation	2624074	2624075	2624076	2624077	2624078
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 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	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 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	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Compound	Unit	Limit	Accreditation	2624074	2624075	2624076	2624077	2624078
TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
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	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 23-24111
 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number	2624074	2624075	2624076	2624077	2624078
Sample Reference	HD1	HD1	HD10	HD10A	HD11
Sample Number	1	2	1	1	1
Depth (m)	0,40	0.80	0.20	0.50	0.20
Date Sampled	17/03/2023	17/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

VOCs

Analytical Parameter	Units	Limit of detection	Accreditation Status	2624074	2624075	2624076	2624077	2624078
Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 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
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 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
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 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
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tribromomethane	µg/kg	5	NONE	< 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
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624074			2624075		2624076		2624077		2624078	
Sample Reference	HD1			HD1		HD10		HD10A		HD11	
Sample Number	1			2		1		1		1	
Depth (m)	0,40			0.80		0.20		0.50		0.20	
Date Sampled	17/03/2023			17/03/2023		16/03/2023		16/03/2023		16/03/2023	
Time Taken	None Supplied			None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status								
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number	2624074	2624075	2624076	2624077	2624078
Sample Reference	HD1	HD1	HD10	HD10A	HD11
Sample Number	1	2	1	1	1
Depth (m)	0,40	0.80	0.20	0.50	0.20
Date Sampled	17/03/2023	17/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

SVOCs

Compound	mg/kg	Limit of detection	Accreditation Status	2624074	2624075	2624076	2624077	2624078
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	0.3	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	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
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 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
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	0.38	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.31	< 0.05	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.18	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.13	< 0.05	< 0.05	< 0.05	< 0.05

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 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624074	2624075	2624076	2624077	2624078
Sample Reference				HD1	HD1	HD10	HD10A	HD11
Sample Number				1	2	1	1	1
Depth (m)				0,40	0,80	0,20	0,50	0,20
Date Sampled				17/03/2023	17/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
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
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PCBs

PCB Congener 077	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 081	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 105	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 114	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 123	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 126	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 156	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 157	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 167	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 169	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 189	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Total PCBs – WHO12

Total PCBs	mg/kg	0.012	NONE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012
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Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624074				2624075				2624076				2624077				2624078			
Sample Reference	HD1				HD1				HD10				HD10A				HD11			
Sample Number	1				2				1				1				1			
Depth (m)	0,40				0.80				0.20				0.50				0.20			
Date Sampled	17/03/2023				17/03/2023				16/03/2023				16/03/2023				16/03/2023			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status																	

Pesticides

Pesticide	Units	Limit of detection	Accreditation Status	2624074	2624075	2624076	2624077	2624078
Alachlor	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Aldrin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Azinphos-ethyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Azinphos-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-beta	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-delta	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Carbophenothion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlordane-cis	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlordane-trans	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlorfenvinphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlorothalonil	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Chlorpyrifos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDD-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDD-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDE-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDE-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDT-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDT-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Demeton-O	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Demeton-S	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Diazinon	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorvos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dieldrin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dimethoate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dimethylvinphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan sulfate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endrin	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Endrin aldehyde	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endrin ketone	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Ethion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Etrimfos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenitrothion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenthion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Heptachlor	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Heptachlor exo-epoxide	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Hexachlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Isodrin	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Malathion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Methacrifos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Methoxychlor, p,p'	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Mevinphos, E+Z	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Omethoate	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Parathion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Parathion-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624074	2624075	2624076	2624077	2624078
Sample Reference				HD1	HD1	HD10	HD10A	HD11
Sample Number				1	2	1	1	1
Depth (m)				0,40	0.80	0.20	0.50	0.20
Date Sampled				17/03/2023	17/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
				Pentachlorobenzene	µg/kg	10	NONE	< 10
Phorate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Phosalone	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Pirimiphos-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Propetamphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Tecnazene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Triazophos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trifluralin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Acid Herbicides

2,3,6-TBA	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50
2,4,5-T	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4,5-TP (Fenoprop)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4-D	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4-DB	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
4-CPA	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Bromacil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Bromoxynil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Clopyralid	µg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100
Dicamba	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Diclofop	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorprop	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dinoseb	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Flamprop	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50
Flamprop-Isopropyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Ioxynil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
MCPA	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
MCPB	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
MCPP (Mecoprop)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Picloram	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50

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

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	20	52	17	29
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

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	EC	EC	EC	EC	EC

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.7	5.3	6.5	5.4	6.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	20	25	120	24	63
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.01	0.013	0.062	0.012	0.032
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	10.1	12.6	61.6	12.2	31.5
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	0.5	4.9	8.8	4.6	6.1

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.18	0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.36	0.12
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.32	0.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.14	0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.22	0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.21	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.09	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	1.65	< 0.80
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Analytical Report Number: 23-24111
 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.7	4.2	2.1	4.7	2.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	33	12	11	13	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.66	0.26	0.15	0.23	0.17
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.7	0.4	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.4	< 0.2	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	2	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	7.3	4.3	8.4	9.5
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	9	7	5.4	6.2
Lead (aqua regia extractable)	mg/kg	1	MCERTS	7.2	29	8.1	15	8
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	5.2	4.7	5.7	4.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	14	9.9	12	5.4
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	34	15	7.5	20	9.8

Monoaromatics & Oxygenates

	µg/kg			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
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

	mg/kg			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 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	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 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	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

	mg/kg			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
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	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	12	< 10
TPH-CWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	16	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	18	< 10

Analytical Report Number: 23-24111
 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 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
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 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
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 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
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tribromomethane	µg/kg	5	NONE	< 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
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
				Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	0.5	0.5	0.9	0.2	1.7
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	0.3	0.5
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	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
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 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
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.18	0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.36	0.12
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.32	0.1
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.14	0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.22	0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.21	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.09	< 0.05

Analytical Report Number: 23-24111
 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
	Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
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
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PCBs

PCB Congener 077	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 081	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 105	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 114	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 123	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 126	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 156	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 157	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 167	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 169	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 189	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Total PCBs – WHO12

Total PCBs	mg/kg	0.012	NONE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012
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Analytical Report Number: 23-24111
 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pesticides								
Alachlor	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Aldrin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Azinphos-ethyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Azinphos-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-beta	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-delta	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Carbophenothion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlordane-cis	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlordane-trans	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlorfenvinphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlorothalonil	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Chlorpyrifos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDD-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDD-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDE-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDE-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDT-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDT-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Demeton-O	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Demeton-S	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Diazinon	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorvos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dieldrin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dimethoate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dimethylvinphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan sulfate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endrin	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Endrin aldehyde	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endrin ketone	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Ethion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Etrimfos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenitrothion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenthion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Heptachlor	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Heptachlor exo-epoxide	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Hexachlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Isodrin	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Malathion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Methacrifos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Methoxychlor, p,p'	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Mevinphos, E+Z	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Omethoate	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Parathion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Parathion-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

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Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624079	2624080	2624081	2624082	2624083
Sample Reference				HD12	HD2	HD2	HD3	HD3
Sample Number				2	1	2	1	2
Depth (m)				0.80	0.20	0.60	0.20	0.60
Date Sampled				16/03/2023	17/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
	Pentachlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10
Phorate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Phosalone	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Pirimiphos-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Propetamphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Tecnazene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Triazophos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trifluralin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Acid Herbicides

2,3,6-TBA	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50
2,4,5-T	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4,5-TP (Fenoprop)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4-D	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4-DB	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
4-CPA	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Bromacil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Bromoxynil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Clopyralid	µg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100
Dicamba	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Diclofop	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorprop	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dinoseb	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Flamprop	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50
Flamprop-Isopropyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Ioxynil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
MCPA	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
MCPB	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
MCPP (Mecoprop)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Picloram	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50

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

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Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	34	21	15	21	77
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

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	PDO	PDO	PDO	PDO	PDO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	5.8	5.3	6.4	5.8	U/S
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	15	13	21	33	49
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0073	0.0067	0.011	0.016	0.025
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	7.3	6.7	10.5	16.4	24.6
Organic Matter	%	0.1	MCERTS	-	-	-	-	26
Organic Matter (automated)	%	0.1	MCERTS	6.6	8.8	1.9	4.7	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.13
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.17	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.34	0.08	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.28	0.07	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.19	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.56	< 0.80	< 0.80	< 0.80	< 0.80
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 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.1	6.8	2.8	2.1	8.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	16	11	9.5	5.3	22
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.24	0.16	0.12	< 0.06	0.35
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.7	< 0.2	0.3	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	< 0.2	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S#	U/S#	< 1.8	U/S#	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	6.9	5.3	6	2.7	9.7
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5	5.5	3.8	5.4	9.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	38	4.6	32	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	5.3	4.2	3.5	1.6	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	16	13	10	5.2	9.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	22	17	12	7.7	8.2

Monoaromatics & Oxygenates

	µg/kg		MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
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-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 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	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 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	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
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	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	100
TPH-CWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	100
TPH-CWG - Aromatic (EC5 - EC44) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	110

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 Your Order No: GN24456 RL

Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 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
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 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
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 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
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tribromomethane	µg/kg	5	NONE	< 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
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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Project / Site name: Norwich Western Link Project

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Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
				Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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 Project / Site name: Norwich Western Link Project
 Your Order No: GN24456 RL

Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	1	0.7	0.3	0.4	1.7
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	0.5	< 0.2	< 0.2	< 0.2	0.3
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	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
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 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
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.13
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	0.17	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	0.34	0.08	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.28	0.07	< 0.05	< 0.05	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.19	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.1	< 0.05	< 0.05	< 0.05	< 0.05

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Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
	Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

PCBs by GC-MS

PCB Congener	Units	Limit of detection	Accreditation Status	2624084	2624085	2624086	2624087	2624088
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
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	Units	Limit of detection	Accreditation Status	2624084	2624085	2624086	2624087	2624088
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007

PCBs

PCB Congener	Units	Limit of detection	Accreditation Status	2624084	2624085	2624086	2624087	2624088
PCB Congener 077	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 081	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 105	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 114	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 123	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 126	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 156	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 157	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 167	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 169	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 189	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Total PCBs – WHO12

Total PCBs	Units	Limit of detection	Accreditation Status	2624084	2624085	2624086	2624087	2624088
Total PCBs	mg/kg	0.012	NONE	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012

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Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Pesticides								
Alachlor	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Aldrin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Azinphos-ethyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Azinphos-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-beta	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-delta	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Carbophenothion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlordane-cis	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlordane-trans	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlorfenvinphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Chlorothalonil	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Chlorpyrifos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDD-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDD-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDE-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDE-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDT-o,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
DDT-p,p'	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Demeton-O	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Demeton-S	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Diazinon	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorvos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dieldrin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dimethoate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dimethylvinphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endosulfan sulfate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endrin	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Endrin aldehyde	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Endrin ketone	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Ethion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Etrimfos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenitrothion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenthion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Heptachlor	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Heptachlor exo-epoxide	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Hexachlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Isodrin	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Malathion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Methacrifos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Methoxychlor, p,p'	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Mevinphos, E+Z	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Omethoate	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Parathion	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Parathion-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

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Lab Sample Number				2624084	2624085	2624086	2624087	2624088
Sample Reference				HD4	HD5	HD5	HD6	HD7
Sample Number				1	1	2	1	1
Depth (m)				0.20	0.20	0.70	0.20	0.50
Date Sampled				17/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
	Pentachlorobenzene	µg/kg	10	NONE	< 10	< 10	< 10	< 10
Phorate	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Phosalone	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Pirimiphos-methyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Propetamphos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Tecnazene	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Triazophos	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Trifluralin	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Acid Herbicides

2,3,6-TBA	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50
2,4,5-T	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4,5-TP (Fenoprop)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4-D	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
2,4-DB	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
4-CPA	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Bromacil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Bromoxynil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Clopyralid	µg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100
Dicamba	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Diclofop	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dichlorprop	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Dinoseb	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Flamprop	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50
Flamprop-Isopropyl	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Ioxynil	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
MCPA	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
MCPB	µg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
MCPP (Mecoprop)	µg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
Picloram	µg/kg	50	NONE	< 50	< 50	< 50	< 50	< 50

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

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Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624089
Sample Reference				HD9
Sample Number				1
Depth (m)				0.30
Date Sampled				16/03/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	17
Total mass of sample received	kg	0.001	NONE	0.8

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	33
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.017
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	16.5
Organic Matter	%	0.1	MCERTS	-
Organic Matter (automated)	%	0.1	MCERTS	4.7

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80
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Project / Site name: Norwich Western Link Project
Your Order No: GN24456 RL

Lab Sample Number				2624089
Sample Reference				HD9
Sample Number				1
Depth (m)				0.30
Date Sampled				16/03/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6
Barium (aqua regia extractable)	mg/kg	1	MCERTS	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.18
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	4.9
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	11
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	13

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number		2624089		
Sample Reference		HD9		
Sample Number		1		
Depth (m)		0.30		
Date Sampled		16/03/2023		
Time Taken		None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
VOCs				
Chloromethane	µg/kg	5	ISO 17025	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Trichloromethane	µg/kg	5	ISO 17025	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Tetrachloromethane	µg/kg	5	NONE	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0
Tribromomethane	µg/kg	5	NONE	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0
1,1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0
Bromobenzene	µg/kg	5	ISO 17025	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624089
Sample Reference				HD9
Sample Number				1
Depth (m)				0.30
Date Sampled				16/03/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number		2624089		
Sample Reference		HD9		
Sample Number		1		
Depth (m)		0.30		
Date Sampled		16/03/2023		
Time Taken		None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
SVOCs				
Aniline	mg/kg	0.1	NONE	0.8
Phenol	mg/kg	0.2	ISO 17025	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Azobenzene	mg/kg	0.3	NONE	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624089
Sample Reference				HD9
Sample Number				1
Depth (m)				0.30
Date Sampled				16/03/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	< 0.007
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PCBs

PCB Congener 077	mg/kg	0.001	NONE	< 0.001
PCB Congener 081	mg/kg	0.001	NONE	< 0.001
PCB Congener 105	mg/kg	0.001	NONE	< 0.001
PCB Congener 114	mg/kg	0.001	NONE	< 0.001
PCB Congener 118	mg/kg	0.001	NONE	< 0.001
PCB Congener 123	mg/kg	0.001	NONE	< 0.001
PCB Congener 126	mg/kg	0.001	NONE	< 0.001
PCB Congener 156	mg/kg	0.001	NONE	< 0.001
PCB Congener 157	mg/kg	0.001	NONE	< 0.001
PCB Congener 167	mg/kg	0.001	NONE	< 0.001
PCB Congener 169	mg/kg	0.001	NONE	< 0.001
PCB Congener 189	mg/kg	0.001	NONE	< 0.001

Total PCBs – WHO12

Total PCBs	mg/kg	0.012	NONE	< 0.012
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Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number		2624089		
Sample Reference		HD9		
Sample Number		1		
Depth (m)		0.30		
Date Sampled		16/03/2023		
Time Taken		None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Pesticides				
Alachlor	µg/kg	10	NONE	< 10
Aldrin	µg/kg	10	NONE	< 10
Azinphos-ethyl	µg/kg	10	NONE	< 10
Azinphos-methyl	µg/kg	10	NONE	< 10
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	< 10
BHC-beta	µg/kg	10	NONE	< 10
BHC-delta	µg/kg	10	NONE	< 10
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	< 10
Carbophenothion	µg/kg	10	NONE	< 10
Chlordane-cis	µg/kg	10	NONE	< 10
Chlordane-trans	µg/kg	10	NONE	< 10
Chlorfenvinphos	µg/kg	10	NONE	< 10
Chlorothalonil	µg/kg	20	NONE	< 20
Chlorpyrifos	µg/kg	10	NONE	< 10
DDD-o,p'	µg/kg	10	NONE	< 10
DDD-p,p'	µg/kg	10	NONE	< 10
DDE-o,p'	µg/kg	10	NONE	< 10
DDE-p,p'	µg/kg	10	NONE	< 10
DDT-o,p'	µg/kg	10	NONE	< 10
DDT-p,p'	µg/kg	10	NONE	< 10
Demeton-O	µg/kg	10	NONE	< 10
Demeton-S	µg/kg	10	NONE	< 10
Diazinon	µg/kg	10	NONE	< 10
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	< 10
Dichlorvos	µg/kg	10	NONE	< 10
Dieldrin	µg/kg	10	NONE	< 10
Dimethoate	µg/kg	10	NONE	< 10
Dimethylvinphos	µg/kg	10	NONE	< 10
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10
Endosulfan sulfate	µg/kg	10	NONE	< 10
Endrin	µg/kg	20	NONE	< 20
Endrin aldehyde	µg/kg	10	NONE	< 10
Endrin ketone	µg/kg	10	NONE	< 10
Ethion	µg/kg	10	NONE	< 10
Etrimfos	µg/kg	10	NONE	< 10
Fenitrothion	µg/kg	10	NONE	< 10
Fenthion	µg/kg	10	NONE	< 10
Fenvalerate (Sum)	µg/kg	10	NONE	< 10
Heptachlor	µg/kg	10	NONE	< 10
Heptachlor exo-epoxide	µg/kg	10	NONE	< 10
Hexachlorobenzene	µg/kg	10	NONE	< 10
Hexachlorobutadiene	µg/kg	10	NONE	< 10
Isodrin	µg/kg	20	NONE	< 20
Malathion	µg/kg	10	NONE	< 10
Methacrifos	µg/kg	10	NONE	< 10
Methoxychlor, p,p'	µg/kg	20	NONE	< 20
Mevinphos, E+Z	µg/kg	10	NONE	< 10
Omethoate	µg/kg	20	NONE	< 20
Parathion	µg/kg	10	NONE	< 10
Parathion-methyl	µg/kg	10	NONE	< 10

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624089
Sample Reference				HD9
Sample Number				1
Depth (m)				0.30
Date Sampled				16/03/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Pentachlorobenzene	µg/kg	10	NONE	< 10
Phorate	µg/kg	10	NONE	< 10
Phosalone	µg/kg	10	NONE	< 10
Phosphamidon (Sum)	µg/kg	10	NONE	< 10
Pirimiphos-ethyl	µg/kg	10	NONE	< 10
Pirimiphos-methyl	µg/kg	10	NONE	< 10
Propetamphos	µg/kg	10	NONE	< 10
Tecnazene	µg/kg	10	NONE	< 10
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	< 10
Triazophos	µg/kg	10	NONE	< 10
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	< 10
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	< 10
Trifluralin	µg/kg	10	NONE	< 10

Acid Herbicides

2,3,6-TBA	µg/kg	50	NONE	< 50
2,4,5-T	µg/kg	10	NONE	< 10
2,4,5-TP (Fenoprop)	µg/kg	10	NONE	< 10
2,4-D	µg/kg	10	NONE	< 10
2,4-DB	µg/kg	10	NONE	< 10
4-CPA	µg/kg	20	NONE	< 20
Bromacil	µg/kg	10	NONE	< 10
Bromoxynil	µg/kg	10	NONE	< 10
Clopyralid	µg/kg	100	NONE	< 100
Dicamba	µg/kg	20	NONE	< 20
Diclofop	µg/kg	10	NONE	< 10
Dichlorprop	µg/kg	10	NONE	< 10
Dinoseb	µg/kg	10	NONE	< 10
Flamprop	µg/kg	50	NONE	< 50
Flamprop-Isopropyl	µg/kg	10	NONE	< 10
Ioxynil	µg/kg	10	NONE	< 10
MCPA	µg/kg	10	NONE	< 10
MCPB	µg/kg	20	NONE	< 20
MCPP (Mecoprop)	µg/kg	10	NONE	< 10
Picloram	µg/kg	50	NONE	< 50

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



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624098	2624099	2624100
Sample Reference	SW1	SW2	SW3
Sample Number	1	1	1
Depth (m)	0.00	0.00	0.00
Date Sampled	17/03/2023	17/03/2023	17/03/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7.3	8	7.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	34.1	46	54.7
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	130	18	16

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16
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Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	54	22	28
Mercury (total)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.67	0.56	0.54
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.03	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.4	0.4	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	2.6	3.6	2.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	0.5	0.9	3.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.7	6.9	4.6

Petroleum Hydrocarbons

TPH1 (C10 - C40) <small>EH_ID_TOTAL_MS</small>	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624090		2624091		2624092		2624093		2624094	
Sample Reference	HD1		HD11		HD2		HD3		HD4	
Sample Number	1		1		1		1		1	
Depth (m)	0.40		0.20		0.20		0.20		0.20	
Date Sampled	17/03/2023		16/03/2023		17/03/2023		17/03/2023		17/03/2023	
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 Units	N/A	ISO 17025	6.4	6.4	6.3	6.4	5.9
pH (automated)								
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO ₄	mg/l	0.1	ISO 17025	2.7	1.4	2	1.3	3.5
Ammoniacal Nitrogen as NH ₄	µg/l	15	NONE	410	< 15	< 15	< 15	720

Speciated PAHs

	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	9.9	< 0.01
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	9.9	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.99	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.48	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.18	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.27	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.17	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 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

Total PAH

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	13	< 0.2

Heavy Metals / Metalloids

	µg/l	1	ISO 17025	1.2	< 1.0	1.7	< 1.0	1.7
Arsenic (dissolved)	µg/l	1	ISO 17025	1.2	< 1.0	1.7	< 1.0	1.7
Barium (dissolved)	µg/l	0.05	ISO 17025	8.7	5.8	9.4	12	6.7
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	16	< 10	< 10	11	14
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	0.19
Chromium (hexavalent)	µg/l	5	ISO 17025	U/S#	< 5.0	U/S#	< 5.0	U/S#
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.9	2.1	3.1	5.1	3.3
Copper (dissolved)	µg/l	0.7	ISO 17025	100	52	94	83	97
Lead (dissolved)	µg/l	1	ISO 17025	6	14	10	5	4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	5.2	2.8	5	7.9	6.5
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	15	7.9	9.3	7	17
Zinc (dissolved)	µg/l	0.4	ISO 17025	22	9.7	31	20	26

Monoaromatics & Oxygenates

	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624090		2624091		2624092		2624093		2624094	
Sample Reference	HD1		HD11		HD2		HD3		HD4	
Sample Number	1		1		1		1		1	
Depth (m)	0.40		0.20		0.20		0.20		0.20	
Date Sampled	17/03/2023		16/03/2023		17/03/2023		17/03/2023		17/03/2023	
Time Taken	None Supplied		None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status							

Petroleum Hydrocarbons

TPH1 (C10 - C40) <small>EH_1D_TOTAL_MS</small>	µg/l	10	NONE	< 10	< 10	< 10	14	< 10

VOCs

Compound	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	3	NONE	< 3.0###	< 3.0###	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloromethane	µg/l	3	NONE	< 3.0###	< 3.0###	< 3.0	< 3.0	< 3.0
1,2-dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Tribromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
ter-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,3-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
P-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624090	2624091	2624092	2624093	2624094
Sample Reference				HD1	HD11	HD2	HD3	HD4
Sample Number				1	1	1	1	1
Depth (m)				0.40	0.20	0.20	0.20	0.20
Date Sampled				17/03/2023	16/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					
				1,2-dichlorobenzene	µg/l	3	NONE	< 3.0
1,4-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624090				2624091				2624092				2624093				2624094			
Sample Reference	HD1				HD11				HD2				HD3				HD4			
Sample Number	1				1				1				1				1			
Depth (m)	0.40				0.20				0.20				0.20				0.20			
Date Sampled	17/03/2023				16/03/2023				17/03/2023				17/03/2023				17/03/2023			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status																	

SVOCs

Analytical Parameter	Units	Limit of detection	Accreditation Status	2624090	2624091	2624092	2624093	2624094
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	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
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	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
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	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
Isophorone	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
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	9.9	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	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
2,4,6-Trichlorophenol	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-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.99	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.48	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	1	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.18	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.27	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.17	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
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



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624090	2624091	2624092	2624093	2624094
Sample Reference				HD1	HD11	HD2	HD3	HD4
Sample Number				1	1	1	1	1
Depth (m)				0.40	0.20	0.20	0.20	0.20
Date Sampled				17/03/2023	16/03/2023	17/03/2023	17/03/2023	17/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					
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

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



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624095	2624096	2624097
Sample Reference	HD5	HD6	HD9
Sample Number	1	1	1
Depth (m)	0.20	0.20	0.30
Date Sampled	16/03/2023	16/03/2023	16/03/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status

General Inorganics

Parameter	Units	N/A	ISO 17025	2624095	2624096	2624097
pH (automated)	pH Units	N/A	ISO 17025	6.5	6.4	6.5
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO ₄	mg/l	0.1	ISO 17025	1.8	1.5	2.2
Ammoniacal Nitrogen as NH ₄	µg/l	15	NONE	170	< 15	170

Speciated PAHs

Parameter	Units	N/A	ISO 17025	2624095	2624096	2624097
Naphthalene	µg/l	0.01	ISO 17025	1.7	6.6	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	0.33	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	0.37	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.26	1.3	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.21	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.7	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.5	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 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

Total PAH

Parameter	Units	N/A	ISO 17025	2624095	2624096	2624097
Total EPA-16 PAHs	µg/l	0.2	NONE	2	9.9	< 0.2

Heavy Metals / Metalloids

Parameter	Units	N/A	ISO 17025	2624095	2624096	2624097
Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	2.7
Barium (dissolved)	µg/l	0.05	ISO 17025	2.6	3.6	6.2
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	13	< 10	14
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	U/S#
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.7	1.6	2.6
Copper (dissolved)	µg/l	0.7	ISO 17025	13	56	73
Lead (dissolved)	µg/l	1	ISO 17025	6.5	7.9	7.7
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.1	0.8	3.8
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	6	7.4	5.6
Zinc (dissolved)	µg/l	0.4	ISO 17025	14	11	23

Monoaromatics & Oxygenates

Parameter	Units	N/A	ISO 17025	2624095	2624096	2624097
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624095	2624096	2624097
Sample Reference	HD5	HD6	HD9
Sample Number	1	1	1
Depth (m)	0.20	0.20	0.30
Date Sampled	16/03/2023	16/03/2023	16/03/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status

Petroleum Hydrocarbons

TPH1 (C10 - C40) <small>EH_1D_TOTAL_MS</small>	µg/l	10	NONE	< 10	11	< 10
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VOCs

Chloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Trichloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,2-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Trans-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Tetrachloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,2-dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Tribromomethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
ter-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,3-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
P-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number				2624095	2624096	2624097
Sample Reference				HD5	HD6	HD9
Sample Number				1	1	1
Depth (m)				0.20	0.20	0.30
Date Sampled				16/03/2023	16/03/2023	16/03/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status			
1,2-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,4-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	0.1	NONE	< 0.1	< 0.1	< 0.1
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624095	2624096	2624097
Sample Reference	HD5	HD6	HD9
Sample Number	1	1	1
Depth (m)	0.20	0.20	0.30
Date Sampled	16/03/2023	16/03/2023	16/03/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Nitrophenol	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
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	NONE	1.7	6.6	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	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
2,4,6-Trichlorophenol	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-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	NONE	< 0.01	0.33	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	NONE	< 0.01	0.37	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	NONE	0.26	1.3	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	0.21	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	NONE	< 0.01	0.7	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	0.5	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
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



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Environmental Science

Analytical Report Number: 23-24111

Project / Site name: Norwich Western Link Project

Your Order No: GN24456 RL

Lab Sample Number	2624095	2624096	2624097			
Sample Reference	HD5	HD6	HD9			
Sample Number	1	1	1			
Depth (m)	0.20	0.20	0.30			
Date Sampled	16/03/2023	16/03/2023	16/03/2023			
Time Taken	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status			
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

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

Analytical Report Number : 23-24111
Project / Site name: Norwich Western Link Project

* 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 *
2624074	HD1	1	0,40	Brown loam and sand with vegetation.
2624075	HD1	2	0.8	Brown sand with vegetation.
2624076	HD10	1	0.2	Brown sand with gravel and vegetation.
2624077	HD10A	1	0.5	Brown clay and sand with gravel and vegetation.
2624078	HD11	1	0.2	Brown loam and sand with gravel and vegetation.
2624079	HD12	2	0.8	Brown clay and sand with gravel.
2624080	HD2	1	0.2	Brown clay and sand with gravel and vegetation.
2624081	HD2	2	0.6	Brown loam with gravel and peat
2624082	HD3	1	0.2	Brown sand with gravel and vegetation.
2624083	HD3	2	0.6	Brown loam and sand with gravel and vegetation.
2624084	HD4	1	0.2	Brown silt with vegetation.^
2624085	HD5	1	0.2	Brown loam and sand with gravel and vegetation.
2624086	HD5	2	0.7	Brown sand with gravel and chalk.
2624087	HD6	1	0.2	Brown loam and sand with gravel and vegetation.
2624088	HD7	1	0.5	Brown loam with peat and vegetation.
2624089	HD9	1	0.3	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-24111

Project / Site name: Norwich Western Link Project

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
Metals in water by ICP-MS (total)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
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
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
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
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

Analytical Report Number : 23-24111

Project / Site name: Norwich Western Link Project

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 EPA-16 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	L102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
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
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
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
Semi-volatile organic compounds in leachate	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-PL	W	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH1 (Waters) by GCxGC-FID	Determination of hydrocarbons C10-C40 by GCxGC-FID. Accredited Matrices SW, PW, GW.	In-house method	L101-PL	W	ISO 17025
Total cyanide in leachate	Determination of total 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	ISO 17025
Total cyanide in soil	Determination of total 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
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA8260	L073B-PL	W	ISO 17025

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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
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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	L073B-PL	W	MCERTS
BTEX in leachates (Monoaromatics)	Determination of BTEX in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
PCBs WHO 12 in soil	Determination of PCBs (WHO-12 Congeners) by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Pesticides by GC-MS/MS	Determination of Pesticides in soil by GC MS/MS	In-house method	L055B-PL	W	NONE
Acid Herbicides by LC-MS	Determination of Acid Herbicides by LC MS	In-house method	L057B-PL	W	NONE
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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

Analytical Report Number : 23-24111

Project / Site name: Norwich Western Link Project

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
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	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

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

#U/S - Unsuitable for analysis due to high colour intensity.

##U/S - Unsuitable for analysis, sample absorbed all water used for extraction.

Data reported unaccredited due to quality control parameter failure associated with this result; other checks

^Unaccredited sample matrix.

Sample Deviation Report



Analytical Report Number : 23-24111

Project / Site name: Norwich Western Link Project

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW1	1	W	2624098	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW1	1	W	2624098	c	Ammonium as NH4 in water	L082-PL	c
SW1	1	W	2624098	c	pH at 20oC in water (automated)	L099-PL	c
SW2	1	W	2624099	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW2	1	W	2624099	c	Ammonium as NH4 in water	L082-PL	c
SW2	1	W	2624099	c	pH at 20oC in water (automated)	L099-PL	c
SW3	1	W	2624100	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW3	1	W	2624100	c	Ammonium as NH4 in water	L082-PL	c
SW3	1	W	2624100	c	pH at 20oC in water (automated)	L099-PL	c

5. Annex C – Zipped AGS File