



a Colliers
Company.

21.1423/CB/GWR 4
12 September 2022

Ark Estates 2 Limited

Mark Costello
Concert Ltd
182-194 Union House
Union Street
London
SE1 0LH

UNION PARK, BULLS BRIDGE, HAYES – GROUNDWATER MONITORING REPORT 4

Dear Mark

Introduction

This report presents the findings of the final groundwater monitoring visits completed at Union Park, Bulls Bridge Industrial Estate, Hayes, UB3 4QT (Figure 1, Appendix 1). Paragon has previously issued three monitoring reports for the first set of results (baseline and visits 1 to 6) in a report dated December 2021 (Groundwater Monitoring Initial Summary, 211423/CB/NW), visits 7 to 14 in a report dated March 2022 (Groundwater Monitoring Report 2, 211423/AH/GWR 2) and visits 15 to 17 in a report dated July 2022 (Groundwater Monitoring Report 3, 211423/CB/GWR 3).

The purpose of the work was to provide evidence to support the discharge of Planning Condition 35 under the redevelopment application 75111/APP/2020/1955:

“The development hereby permitted shall not commence until a monitoring and maintenance plan in respect of contamination, including a timetable of monitoring and submission of reports to the Local Planning Authority, has been submitted to and approved in writing by the Local Planning Authority, in consultation with the Environment Agency. Reports as specified in the approved plan, including details of any necessary contingency action arising from the monitoring, shall be submitted to and approved in writing by the Local Planning Authority.”

This report has also been prepared to partially discharge Condition 34 of the same application:

“Prior to any part of the permitted development being brought into use, a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved in writing by the Local Planning Authority, in consultation with the Environment Agency. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.”



a Colliers
Company.

This report is to be submitted to the Local Authority to discharge the conditions.

The Remediation Strategy sets out the requirements for remediation in relation to Controlled Waters. In summary, despite the results of the Detailed Quantitative Risk Assessment (DQRA) indicating the risk of site-derived contaminants impacting the River Crane (nearest Controlled Water receptor) is low. Based on the proximity of the river to the site, ongoing monitoring should be undertaken during development to ensure that no adverse impacts to the river are caused during development. As such, a long-term groundwater monitoring plan was proposed.

The aim of the monitoring was to ensure that there are no adverse chemical impacts on the groundwater and the neighbouring River Crane as a direct result of the primary risk activity, which was considered to be piling activities taking place onsite.

In order to quantify the risk associated with piling activities, the results of the groundwater monitoring have been compared to the results of the baseline monitoring visit and the Site-Specific Assessment Criteria (SSACs) derived in the DQRA. We have also reviewed information provided by the main contractor on site activities.

Previous Reports

The site has been subject to several phases of investigation. The following reports are relevant to this investigation and should be read in conjunction with this assessment.

- Paragon, 2022. Groundwater Monitoring Report 3. Reference: 211423/CB/GWR 3. Dated: 13 July 2022.
- Paragon, 2022. Groundwater Monitoring Report 2. Reference: 211423/AH/GWR 2. Dated: 17 March 2022.
- Paragon, 2021. Groundwater Monitoring Initial Summary. Reference: 211423/CB/NW. Dated: 21 December 2021.
- Paragon, 2021. Piling Works Risk Assessment. Reference: 21.0198/CB/NW. Dated: 22 February 2021.
- Paragon, 2021. Remediation Strategy. Reference: 20.0023/CK/LSG Revision E. Dated: 2 September 2021.
- Paragon, 2021. Detailed Quantitative Risk Assessment (DQRA). Reference: 20.0023/CK/KJH Revision C. Dated: 11 November 2021.
- Paragon, 2021. Phase 2 Ground Investigation Report. Reference: 20.0023/CB/DCN Revision D. Dated: 11 November 2021.
- Paragon, 2021. Phase 1 Preliminary Risk Assessment. Reference: 19.0633/CB/NW Revision D. Dated: 11 November 2021.

Long-Term Groundwater Monitoring Strategy

The monitoring programme was set out within Table 5 of the Remediation Strategy, which has been replicated below. When preparing the Remediation Strategy, it was considered that the piling works would last 4-5 months and then break around the Christmas period, before re-starting in January 2022. Piling was due to finish at the end of January 2022.

Table 1. Table 5 from the Remediation Strategy: Long Term Monitoring Plan

Time	Monitoring Requirements
Pre-Development	Baseline monitoring.
During Development (during piling)	Fortnightly monitoring visits for a duration of approximately 4-5 months (duration of piling) and to be increased during the shorter phase of piling post break (1-2 months).
During Development (during periods without piling)	Monthly monitoring visits (over the Christmas break 2021, approximately 1-2 months).
Post-Development (post-piling)	Monthly monitoring visits for six months.

The contaminants to be monitored were set out within the Remediation Strategy and included Heavy Metals, Polyaromatic Hydrocarbons (PAH), Petroleum Hydrocarbons (tested as Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) and Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Phenols and Ammonia / Ammoniacal Nitrogen. In addition, parameters including pH, electrical conductivity, salinity, Nitrate, Nitrite, and Manganese were to be recorded.

The Remediation Strategy stated that “should a deterioration in groundwater quality be detected in the Lynch Hill Gravel Formation that may be related to the piling works, the piling operations will be stopped and the cause of the deterioration investigated. This would be through additional groundwater monitoring and cross-checking with recent piling records. Piling works will not continue until the issue is resolved. In the event that significant concentrations of contamination are identified, a remediation contractor would be contacted to establish an appropriate solution, i.e., pump and treat, to address the contamination”.

Fieldwork

Three boreholes were drilled and installed with monitoring wells in December 2021. A borehole location plan is presented in Figure 2, Appendix 1.

Groundwater monitoring was initially undertaken on a fortnightly basis following the baseline monitoring visit, which was completed on 5 August 2021. The monitoring frequency was then reduced to monthly once piling had finished. The dates of the groundwater monitoring visits are presented in Table 2.



The main contractor has provided Paragon with a programme of works carried out on site over the monitoring period. This information has been used to determine whether any works took place in the vicinity of the boreholes and whether the works have had an influence on the groundwater quality. The piling works were carried out in the eastern part of the site from mid-December 2021 to February 2022. Whilst no gross contamination was recorded as being identified by the contractor, it is understood that obstructions were encountered between depths of 1.50mbgl to 4.00mbgl throughout the piling period.

In addition, non-piling activities were taking place onsite during the monitoring period. These included the diversion of a gas main situated in the eastern part of the site (by Cadent). The diversion works took place between December 2021 and mid-February 2022. It is understood that the excavations reached a maximum depth of 1.20mbgl. In addition, the ground beams were completed in June 2022 which involved excavating up to 10.00mbgl to the formation level. No gross contamination was reported by the contractor.

Table 2. Monitoring Visits Completed

Monitoring Round		Borehole Reference		
		BH101	BH102	BH103
Baseline				
05/08/21	Initial Baseline Visit	✓	✓	✓
During Piling				
19/08/21	Round 1	✓	✓	✓
31/08/21	Round 2	✓	✓	✓
14/09/21	Round 3	✓	✓	✓
30/09/21	Round 4	✓	✓	✓
13/10/21	Round 5	✓	✓	✓
28/10/21	Round 6	✓	✓	✓
10/11/21	Round 7	✓	✓	✓
23/11/21	Round 8	✓	✓	✓
07/12/21	Round 9	✓	✓	✓
20/12/21	Round 10	✓	✓	x ¹
05/01/22	Round 11	✓	✓	✓
19/01/22	Round 12	✓	✓	✓
31/01/22	Round 13	✓	✓	✓
17/02/22	Round 14	✓	✓	✓
Post Piling				
31/03/22	Round 15	✓	✓	✓
26/05/22	Round 16	✓	✓	✓
29/06/22	Round 17	✓	✓	✓
25/06/22	Round 18	x ²	✓	✓
17/08/22	Round 19	✓	✓	✓

Note To Table:

¹BH103 ran dry during monitoring on round 10 so no sample was taken during this visit.

²BH101 was inaccessible during monitoring round 18 due to stockpiles of soil.

It should be noted that no monitoring visits were completed in April due to illnesses within the monitoring team.



During the baseline monitoring visit, the samples were obtained using a bailer. The subsequent visits were completed using low flow methods, which better represent the existing environment, as the sample is considered to be undisturbed. During each monitoring visit, the groundwater levels were recorded using an oil/water interface probe to check for the presence of Non-Aqueous Phase Liquids (NAPL). In addition, during monitoring, visual or olfactory evidence of contamination was recorded.

The groundwater samples were submitted for chemical analysis in line with the contaminants of concern highlighted in the original Phase 2 Ground Investigation and DQRA (both previously prepared by Paragon and submitted to the Local Authority as part of the planning application). The testing suite included: pH, Ammoniacal Nitrogen, Phenols, Heavy Metals, Polyaromatic Hydrocarbons (PAH), and Total Petroleum Hydrocarbons (TPH). In addition, water quality parameters (i.e. electrical conductivity, temperature, pH and dissolved oxygen) were recorded during monitoring.

Results

The results of the groundwater monitoring, field parameters and the groundwater risk assessment are presented below. The field records obtained during sampling are summarised in Table 3 and presented in Appendix 3. These include records of water quality, depth to water, and visual or olfactory evidence of contamination. These parameters have been collected as they are useful indicators of water quality and can aid interpretation for whether degradation is likely to be occurring.

Table 3. Field Parameter Summary

Parameter	Recorded Result								
	BH1			BH2			BH3		
	Min	Max	Average	Min	Max	Average	Min	Max	Average
Depth to Water mbgl [mAOD]	1.48 [28.04]	2.29 [28.85]	1.79 [28.53]	2.24 [25.75]	3.75 [27.26]	2.79 [26.71]	3.40 [26.81]	4.35 [27.76]	3.74 [27.42]
Electrical Conductivity (mS/cm)	7663	65606	29614	1013	5146	2174	2415	9504	3753
Temperature (°C)	6.06	20.17	13.50	6.74	18.00	13.21	4.40	17.88	13.26
pH	6.43	7.44	7.02	6.29	7.80	6.94	6.67	8.00	7.20
Dissolved Oxygen (%)	2.66	43.74	8.62	1.94	15.53	6.46	2.63	50.04	10.43
Visual or Olfactory Signs of Contamination	No oils or sheens were noted. A weak hydrocarbon odour was noted on round 16.			No oils or sheens were noted. A hydrocarbon odour was noted on rounds 2, 4, 5, 7, 8, 10, 12, 13, 14, and 16. A weak hydrocarbon odour was noted on round 6.			No oils or sheens were noted. A hydrocarbon odour was noted on rounds 6, 7 and 8. A weak hydrocarbon odour was noted on rounds 4 and 14.		



The preliminary risk assessment has been completed by comparing the results of the chemical analysis with the SSAC. These have been selected as they are protective of the River Crane, which is considered to be the principal receptor. The results of the key contaminants of concern, as specified in the DQRA, are presented in Table 4, 5 and 6 for boreholes 1, 2 and 3 respectively. The full risk assessment and laboratory data certificates are presented in Appendix 4.

Table 4. Results of the Chemical Analysis Compared to the SSACs in BH1

Contaminant	DQRA SSAC (µg/l)	Baseline Visit Results (µg/l)	Max Result Rounds 1 – 19 (µg/l)	Round 19 Results (µg/l)	Exceedances
Ammoniacal Nitrogen	28.6	4,200	5,000	56	All samples
Naphthalene	16,310	0.96	5.12	< 0.01	None
Anthracene	3.81	0.59	< 0.01	< 0.01	None
Fluoranthene	4.32	2.23	< 0.01	< 0.01	None
Benzo(a)pyrene	0.01*	1.61	< 0.01	< 0.01	Baseline
Phenol	7 x 10 ²⁹	<10	120	< 3.5	None
Benzene	7.1	<1.0	< 1.0	< 1.0	None
Total Petroleum Hydrocarbons (Aliphatic/Aromatic C5-35)	18,000*	10	< 10	< 10	None

Note to table:

SSACs as calculated in the DQRA (2020).

*Where no corresponding SSAC is available the maximum concentration recorded in the 2020 DQRA data has been used.

Table 5. Results of the Chemical Analysis Compared to the SSACs in BH2

Contaminant	DQRA SSAC (µg/l)	Baseline Visit Results (µg/l)	Max Result Rounds 1 – 19 (µg/l)	Round 17 Results (µg/l)	Exceedances
Ammoniacal Nitrogen	28.6	7,200	6,400	4400	All samples
Naphthalene	16,310	787	356	11.6	None
Anthracene	3.81	9.97	4.5	0.81	Baseline and Round 11
Fluoranthene	4.32	14.3	10.3	1.28	Baseline, Round 3, Round 4, Round 5, Round 7 and Round 11
Benzo(a)pyrene	0.01*	< 0.01	0.3	< 0.01	Round 7 and Round 11
Phenol	7 x 10 ²⁹	2,700	7,800	1,400	None
Benzene	7.1	65.4	56	26.1	Baseline, Round 1, Round 2, Round 3, Round 4, Round 5, Round 6, Round 8, Round 9, Round 10, Round 11, Round 17 and Round 19
Total Petroleum Hydrocarbons (Aliphatic/Aromatic C5-35)	18,000*	1,900	6,500	640	None

Note to table:

SSACs as calculated in the DQRA (2020).

*Where no corresponding SSAC is available the maximum concentration recorded in the 2020 DQRA data has been used.

Table 6. Results of the Chemical Analysis Compared to the SSACs in BH3

Contaminant	DQRA SSAC (µg/l)	Baseline Visit Results (µg/l)	Max Result Rounds 1 – 19 (µg/l)	Round 19 Results (µg/l)	Exceedances
Ammoniacal Nitrogen	28.6	14,000	9,500	8,200	All samples
Naphthalene	16,310	N/A	4.99	<0.01	None
Anthracene	3.81	N/A	127	1.06	Round 1, Round 2, Round 3, Round 4, Round 5, Round 6, Round 7, Round 8, Round 9, Round 15 and Round 17
Fluoranthene	4.32	N/A	129	3.25	Round 1, Round 2, Round 3, Round 4, Round 5, Round 6, Round 7, Round 8, Round 9, Round 13, Round 15 and Round 17
Benzo(a)pyrene	0.01*	N/A	12.8	<0.01	Round 1, Round 2, Round 3, Round 4, Round 5, Round 6, Round 7, Round 8, Round 9, Round 13, Round 15 and Round 17
Phenol	7 x 10 ²⁹	39	< 3.5	< 3.5	None
Benzene	7.1	< 1.0	21.7	21.7	Round 19
Total Petroleum Hydrocarbons (Aliphatic/Aromatic C5-35)	18,000*	< 10	2,500	250	None

Note to table:

SSACs as calculated in the DQRA (2020).

*Where no corresponding SSAC is available the maximum concentration recorded in the 2020 DQRA data has been used.

Insufficient sample to completed baseline analysis on PAHs.

Sample ran dry during visit 10.

Groundwater Levels

The previous ground investigation completed by Paragon reported the groundwater flow direction to be towards the River Crane.

Groundwater levels were recorded from each borehole during the monitoring rounds. The groundwater levels were found to be consistent, and each borehole followed a similar trend throughout the monitoring period. The groundwater levels within BH101 ranged between 1.48mbgl and 2.29mbgl (28.04mAOD and 28.85mAOD). In addition, the groundwater levels in BH102 ranged between 2.24mbgl and 3.75mbgl (25.75mAOD and 27.26mAOD) and the groundwater levels in BH103 ranged between 3.40mbgl and 4.35mbgl (26.81mAOD and 27.76mAOD). The groundwater levels for each borehole showed a seasonal trend, with the highest groundwater levels recorded in winter months, and the lowest in summer months. The most recent visits have shown that in all three boreholes, the groundwater levels are falling.



a Colliers
Company.

Discussion

Paragon has undertaken 1 baseline monitoring visit before piling started, 14 fortnightly monitoring visits during piling activities and 5 monthly monitoring visits post-piling. The monitoring period extends between 5 August 2021 and 17 August 2022. Whilst it was originally planned that there would be a break from piling over the Christmas break, the project team decided to continue piling to ensure they hit their February deadline. As such, Paragon completed additional fortnightly monitoring rounds. The piling works ceased in February 2022 and the monitoring regime was reduced to monthly visits until the final round in August 2022.

During the most recent months, the ground beams have been cast and in order to complete the ground beams, various excavations were completed across the site. Some of these were excavated to circa 10.00mbgl. The project manager has now informed Paragon that the deep excavations finished in June 2022.

During the monitoring period, Paragon have recorded various field parameters (dissolved oxygen, pH, temperature and electrical conductivity) when collecting the water samples. Whilst no clear trends have been drawn from the data, no visible sheen or free product was noted throughout the duration of the monitoring period.

In addition, whilst Tables 4, 5 and 6 show exceedances of the SSAC for Ammoniacal Nitrogen, Anthracene, Fluoranthene, Benzo(A)pyrene and Benzene, concentrations were broadly similar or lower than those presented in the DQRA. In addition, the concentrations of TPH were below the SSAC throughout the monitoring period. Furthermore, when comparing the results from monitoring rounds 1-19 to the baseline monitoring results, the concentrations of key contaminants set out above have broadly decreased.

Based on the foregoing, it is unlikely that piling activities or groundworks have impacted the River Crane.

Further Works

It is understood that the Project Team intend on bringing the piling rig back to the site in autumn/winter 2022 to complete the piles for the visitor block in the southeast corner of the site, in the former Vodafone plot. Currently this area has been inaccessible as there is a telephone mast present, which is waiting to be relocated. It is understood that when it is relocated, the piles will be formed. At this stage, Paragon considers it prudent to carry out groundwater sampling of the monitoring well WS8 (shown on Figure 3, Appendix 1), which is currently beneath the mast. It is proposed that the frequency of monitoring will increase to fortnightly during piling.

In addition, it is understood that future piling activities in the western part of the site and in plots neighbouring the site (the former Abellio Bus Garage and the former Addison Lee Depot) may be required. However, as the monitoring presented in this investigation has shown that the closest piles to the river on the main development site have had minimal impact on the groundwater quality, it is considered highly unlikely that piling activities further away from the river would have a significant impact. As such, groundwater monitoring is not proposed during the piling in these areas.



a Colliers
Company.

Summary

This report has presented the results of the groundwater monitoring undertaken during the piling phase of works. The data evaluation has shown the contaminant concentrations to be in the same magnitude as the concentrations identified within the DQRA and the baseline monitoring. Furthermore, the monthly monitoring has shown a broad decrease in concentrations of contaminants.

It is proposed that the groundwater monitoring should continue until the piling of the visitor block has been completed. In addition, it is considered that groundwater monitoring for the western half of the site and neighbouring plots is not required.

If any unforeseen contamination is uncovered during excavation and construction works on site by the ground workers, works should cease until inspection and potentially further sampling and analysis has been completed.

The results presented in this report are to be included in the remediation verification report and will need to be submitted to the regulators as part of the discharge of the outstanding planning condition.

Yours sincerely

Charlie Bruinvels
Associate Director
Paragon, a Colliers Company
M: 07730 096894
E: Charles.bruinvels@colliers.com

Encs: Appendix 1 – Figures
Appendix 2 – Borehole Logs
Appendix 3 – Groundwater Monitoring Records
Appendix 4 – Groundwater Chemical Results
Appendix 5 – Extent of Survey and Limitations

CC: Charlie Knox – Paragon, a Colliers Company
Tim Cawood – Paragon, a Colliers Company



a Colliers
Company.

**Appendix 1 –
Figures**



Paragon Building Consultancy
 65 Southwark Street
 London
 SE1 0HR
 0207125 0112
 www.paragonbc.co.uk

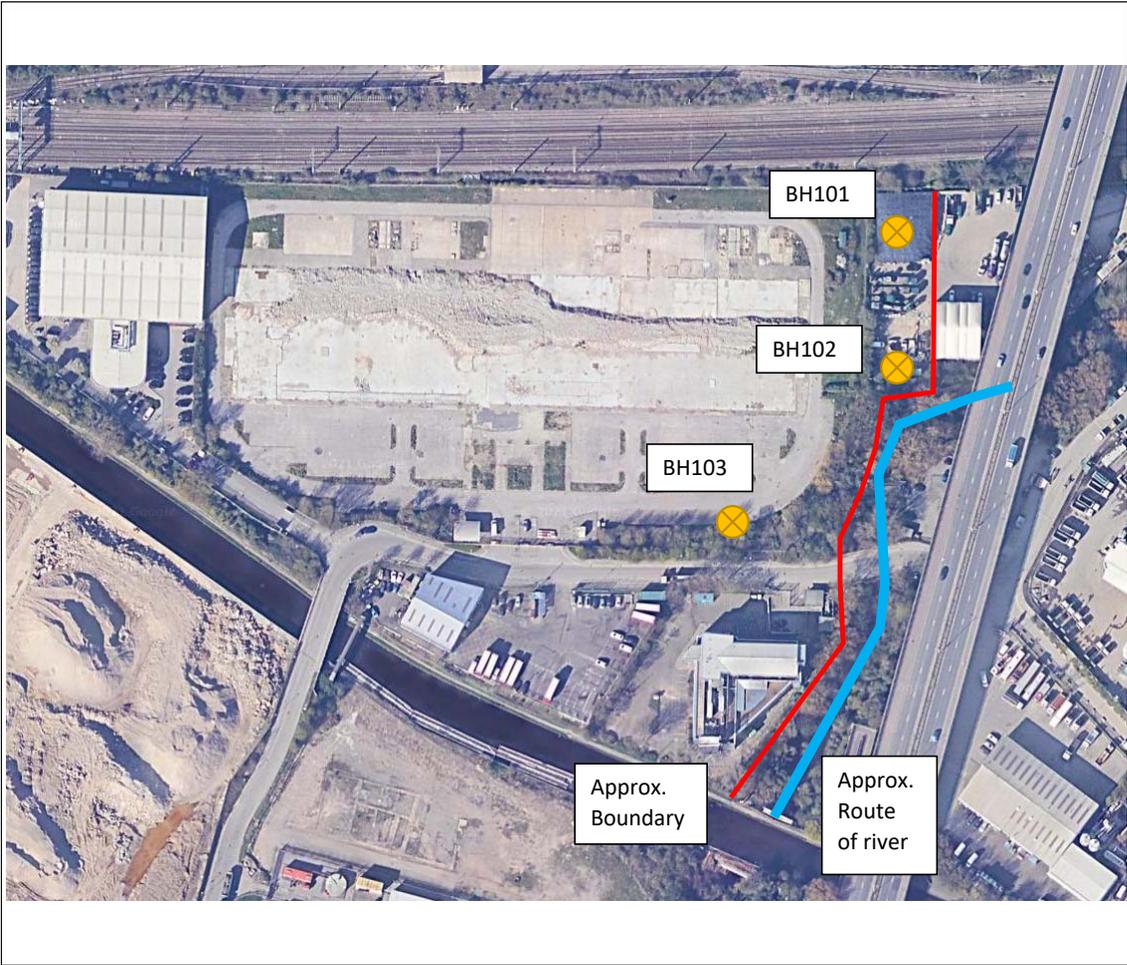
-  Site Location
-  Development Area

Project Number
 211423

Project
 Hayes Bulls Bridge

Figure 1
 Site Location Plan

Date
 02.02.2022

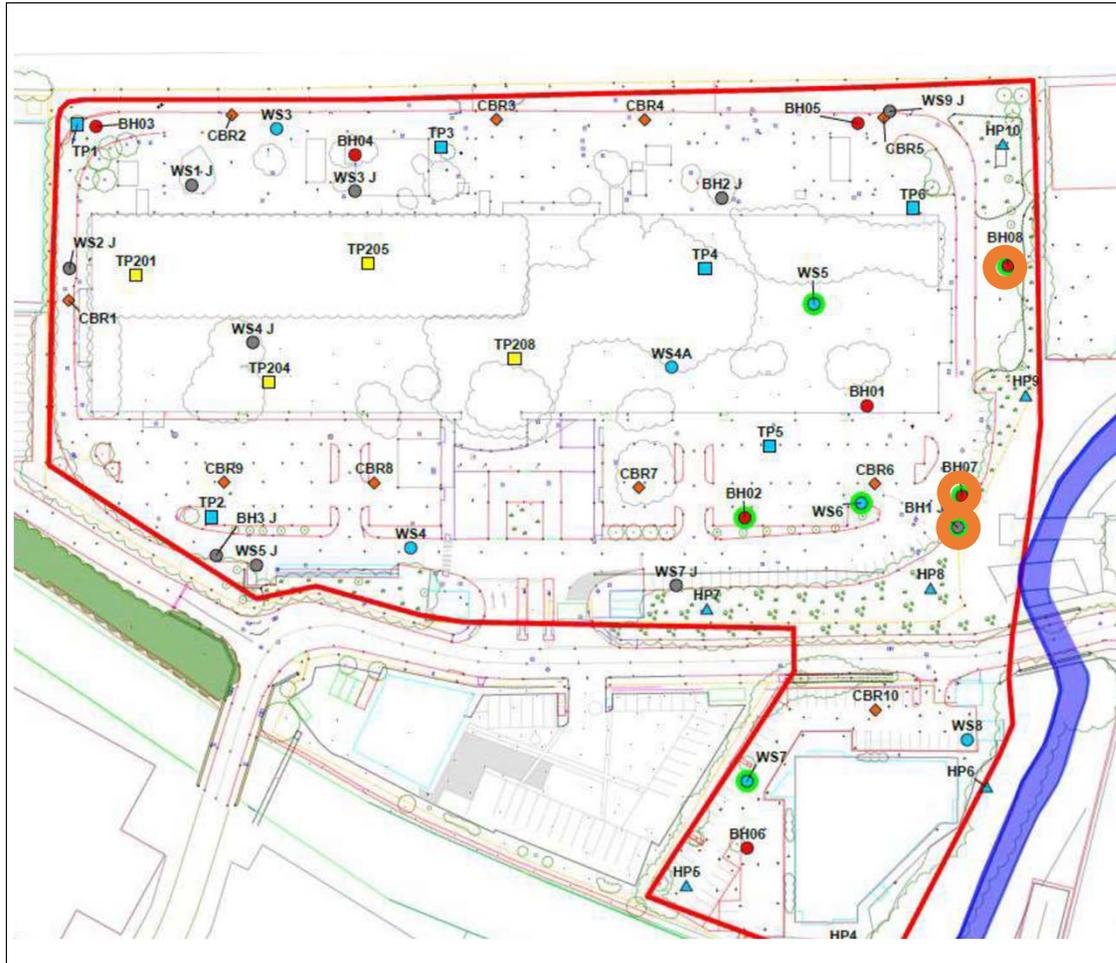


Paragon Building Consultancy
 65 Southwark Street
 London
 SE1 0HR
 0207125 0112
 www.paragonbc.co.uk

Project Number
 211423

Project
 Hayes Bulls Bridge

Figure 2
 Borehole Location Plan
 Date
 02.02.2022



Paragon Building Consultancy
65 Southwark Street
London
SE1 0HR
0207125 0112
www.paragonbc.co.uk

-  DQRA borehole data used in assessment
-  Development Area

Project Number	211423
Project	Hayes Bulls Bridge
Figure 3	DQRA BH locations
Date	02.02.2022



a Colliers
Company.

**Appendix 2 –
Borehole Logs**



Percussion Drilling Log

Project Name: Union Park		Client: Ark Data Centres		Date: 05/08/2021	
Location: Union Park, Bulls Bridge, Hayes, UB3 4QQ		Contractor: Dynamic Sampling Ltd		Co-ords: E510568.13 N179377.87	
Project No. : 211423		Crew Name:		Drilling Equipment:	
Borehole Number BH101	Hole Type WS	Level 30.33m AoD	Logged By CB	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					1.50	28.83		MADE GROUND: Black and brown clayey sandy GRAVEL of fine to coarse, sub-angular brick, concrete, clinker and slate with rare ash.	1
								MADE GROUND: Black and brown slightly gravelly CLAY. Gravel is fine to coarse, sub-angular of mixed lithology. Suspected to be reworked.	2
					3.70	26.63		MADE GROUND: Black fibrous silty CLAY with roots.	4
					4.00	26.33		Brown sandy GRAVEL. Gravel is fine to coarse, sub-angular to angular flint.	4
					5.00	25.33		Blueish grey and brown, slightly silty CLAY.	5
					7.00	23.33		End of Borehole at 7.000m	7
									8
									9
									10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





Percussion Drilling Log

Project Name: Union Park		Client: Ark Data Centres		Date: 05/08/2021	
Location: Union Park, Bulls Bridge, Hayes, UB3 4QQ		Contractor: Dynamic Sampling Ltd		Co-ords: E510569.51 N179317.81	
Project No. : 211423		Crew Name:		Drilling Equipment:	
Borehole Number BH102	Hole Type WS	Level 29.50m AoD	Logged By CB	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.50	29.00		MADE GROUND: Black and brown, gravelly sandy CLAY. Gravel is fine to coarse, sub-angular brick, flint and concrete.	1
								MADE GROUND: Brown and black slightly gravelly CLAY. Gravel is fine to coarse, sub-angular flint. Suspected to be reworked.	2
					3.40	26.10		MADE GROUND: Black slightly sandy gravelly CLAY with occasional peat layers. Gravel is fine to coarse, sub-angular to angular flint. <i>Strong hydrocarbon odour with slight sheen.</i>	3
					4.70	24.80			Brown sandy GRAVEL. Gravel is fine to coarse, sub-angular to angular flint.
					5.00	24.50			Blueish grey and brown, slightly silty CLAY.
					6.00	23.50			End of Borehole at 6.000m
									8
									9
									10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





Percussion Drilling Log

Project Name: Union Park		Client: Ark Data Centres		Date: 05/08/2021	
Location: Union Park, Bulls Bridge, Hayes, UB3 4QQ		Contractor: Dynamic Sampling Ltd		Co-ords: E510518.79 N179246.78	
Project No. : 211423		Crew Name:		Drilling Equipment:	
Borehole Number BH103	Hole Type WS	Level 31.16m AoD	Logged By CB	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
							MADE GROND: Brown sandy GRAVEL. Gravel is fine to coarse, sub-angular concrete and brick.		1
									2
									3
									4
									5
					5.70	25.46			
					6.00	25.16		Slightly clayey sandy GRAVEL. Gravel is fine to coarse, sub-angular to angular flint. Blueish grey and brown, slightly silty CLAY.	6
					7.00	24.16		End of Borehole at 7.000m	7
									8
									9
									10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks





a Colliers
Company.

**Appendix 3 –
Groundwater
Monitoring Records**



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 19.08.2021
WEATHER Overcast

SITE North Hyde Garden, Hayes
TIME On: 08:30 Off: 11:30
MONITORING PERSONNEL Jaime

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:30	3.82	6.79	6.79	65606.19	16.06	6.95	5.30	0.40	-63.49	3	None	Very high	No	Grey	very high	There is 2.21m of standpipe above the ground. Water level taken from the top of the threads.
BH102	10:00	4.49	7.09	7.09	2530.41	14.63	6.41	7.79	0.79	-46.38	4	Chemical	Moderate	No	Cloudy	Moderate	There is 1.85m of stand pipe above the ground. Water level taken from the top of the threads.
BH103	11:00	3.85	5.5	5.5	4321.93	17.16	6.81	8.38	0.80	-48.76	3	Organic	Very high	No	Light brown	Very high	There is 0.35m of standpipe above the ground.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 31.08.2021
WEATHER Overcast

SITE North Hyde Garden Hayes
TIME On: 09:00 Off: 12:00
MONITORING PERSONNEL Jaimie

Monitoring Location	Time	DTL m	DTB m	End m	EC μ S/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:35	4.00	6.82	6.82	22904.80	15.28	7.00	4.98	0.46	-121.45	5	None	Very high	No	brown	very high	There is 2.21m of standpipe above the ground. Water level taken from the top of the threads.
BH102	10:02	4.70	7.09	7.09	1971.47	14.44	6.29	4.87	0.50	-157.37	4	hydrocarbons odo	low	No	grey	low	There is 1.85m of stand pipe above the ground. Water level taken from the top of the threads.
BH103	11:05	4.01	5.51	5.51	2634.90	15.43	6.67	5.10	0.50	-195.85	5	Chemical	Very high	No	Light brown	Very high	There is 0.35m of standpipe above the ground.



**Groundwater Monitoring
Low Flow - Sampling Record Sheet**

CLIENT Paragon
 DATE 14/09/2021
 WEATHER Overcast

SITE North Hyde Garden Hayes
 TIME On: 09:00 Off: 11:30
 MONITORING PERSONNEL None

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:00	4.07	6.82	6.82	18131.30	15.76	6.94	5.64	0.52	-112.84	3	None	moderate	No	light brown	moderate	There is 2.21m of standpipe above the ground. Water level taken from the top of the threads.
BH102	9:45	4.56	7.09	7.09	2720.47	15.28	6.52	5.75	0.57	-154.98	3	Chemical	moderate	No	cloudy	moderate	There is 1.85m of stand pipe above the ground. Water level taken from the top of the threads.
BH103	10:30	4.16	5.50	5.50	3199.44	15.81	6.81	4.67	0.46	-185.99	3	Chemical	high	No	Light brown	high	There is 0.35m of standpipe above the ground.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 30/09/2021
WEATHER Overcast, some light showers, 15degC

SITE North Hyde Gardens
TIME On: 08:30 Off: 12:00
MONITORING PERSONNEL Toby McCusker

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	30/09/2021 11:23	4.27	6.8	6.8	9529.61	363.16	7.21	10.19	1.00	137.72	3.5	Sulphurous	Fine and moderate volume	None	Cloudy	Moderate	Cloudy sample with fine sediment. Sulphurous odour. DTU/DTB taken from top of standpipe.
BH102	30/09/2021 10:56	4.47	7.09	7.09	2529.72	14.41	6.93	15.53	1.57	139.05	3	Hydrocarbon	Fine and moderate volume	None	Cloudy	Low to moderate	Cloudy sample and HC odour (no oil). Fine sediment in sample. DTU/DTB taken from top of BH standpipe.
BH103	30/09/2021 9:57	4.05	5.51	5.51	3628.49	13.99	7.06	14.62	1.49	131.62	3	Weak hydrocarbon	Fine and moderate volume	None	Cloudy	Moderate	Cloudy sample, initially mud in purge water. Weak HC odour (no oil). DTU/DTB taken from top of BH standpipe.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 13/10/2021
WEATHER Overcast

SITE North Hyde Garden, Hayes
TIME On: 08:30 Off: 11:00
MONITORING PERSONNEL Jaime

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	13/10/2021 9:15	3.89	6.82	6.82	59017.75	14.08	7.09	5.86	0.48	-29.01	6	None	High	No	brown	high	re is 2.21m of standpipe above ground, water level taken from the top of the standpipe. Standpipe unscrewed on previous visits, hence dip discrepancies. Conductivity readings as record
BH102	13/10/2021 8:45	4.33	7.07	7.07	2225.48	13.33	6.44	5.80	0.61	-29.34	3	Hydrocarbons	moderate	No	cloudy	moderate	There is 1.85m of stand pipe above ground, water level taken from the top of the standpipe
BH103	13/10/2021 10:00	3.86	5.51	5.5	3533.16	14.89	6.88	5.46	0.55	-50.66	3	chemical	high	No	brown	high	There is 0.35m of standpipe above the ground.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT: Paragon
 DATE: 28/10/2021
 WEATHER: Dry

SITE: North Hyde Garden House
 TIME: 09:28 - 11:20
 MONITORING PERSONNEL: Toby McCusker

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen ppm	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	28/10/2021 10:24	3.70	6.70	6.70	16963.05	14.83	7.18	9.87	0.94	-28.79	4	Weak sulphur	High, fine	No	Light brown	high	There is 2.21m of standpipe above ground.
BH102	28/10/2021 9:59	4.26	7.04	7.04	2911.10	14.32	7.01	9.82	0.99	-43.26	4	Weak hydrocarbon	Low, fine	No	Slightly cloudy	low to moderate	There is 1.85m of stand pipe above ground.
BH103	28/10/2021 10:58	3.75	5.50	5.50	5452.89	15.24	7.32	9.74	0.96	-34.06	3	Hydrocarbon	Moderate	No	cloudy brown	Moderate	There is 0.35m of standpipe above the ground.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 10/11/2021
WEATHER Overcast

SITE North Hyde Garden Hayes
TIME On: 08:45 Off: 11:00
MONITORING PERSONNEL Jaime

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	9:45:00 AM	3.73	6.75	6.75	37356.81	13.81867	7.062987	5.11007	0.460895	-2.083263	4	None	High	No	light brown	high	There is 2.21m of standpipe above the ground, water level taking it from the top of the threats
BH102	9:15:00 AM	4.32	7.06	7.06	1971.21	13.4981	6.380533	5.135124	0.536623	-57.58711	3	Hydrocarbons	low	No	cloudy	low	There is 1.85m of stand pipe above the ground water level taking it from the top of the threats
BH103	10:30:00 AM	4.08	5.5	5.5	2985.088	14.45804	6.700215	5.14229	0.5243955	-67.88202	3	hydrocarbons odour	high	No	light brown	very high	There is 0.35m of standpipe above the ground.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 23.11.2021
WEATHER Sunny

SITE North Hyde Garden Hayes
TIME On: 10:48 Off: 11:45
MONITORING PERSONNEL Toby McCusker

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:48:09 AM	3.85	6.75	6.75	19994.95	525.3046	7.411667	9.204671	0.8954244	111.7736	5	Weak chemical	Moderate	No	Cloudy	Moderate	
BH102	10:13:53 AM	4.49	7.06	7.06	5145.951	12.48794	6.995506	11.15427	1.191133	111.7975	3	Hydrocarbons	Low	No	Cloudy	Low	
BH103	11:45:14 AM	4.41	5.5	5.5	9504.403	13.89272	7.415512	10.2664	1.026019	12.43174	3	hydrocarbons odour	High	No	Cloudy grey	High	



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 07.12.2021
WEATHER Rainy

SITE North Hyde Garden Hayes
TIME On: 09:31 Off: 11:34
MONITORING PERSONNEL Chris Fox

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	11:34:00 AM	4.08	6.75	6.75	32261.63	11.46351	6.51209	3.345857	0.3345283	31.4078	4						
BH102	10:41:00 AM	5.15	6.96	6.96	1812.765	11.6925	6.873536	7.854104	0.8811553	-71.21709	3	Organic and clay	Low	No	Slight cloudy	Low to Medium	Muddy base, low to medium turbidity, no oil visible, odour organic and clay, sediments not visible, clear but slight cloudy visibility
BH103	9:46:00 AM	4.22	5.5	5.5	2414.487	9.098933	7.162433	50.03797	5.951775	-31.06502	2	Organic and clay	Medium	No	Cloudy and light grey	High	Cloudy light grey mud colour, high turbidity, no oil visible, fine sediments, odour of clay and organic matter



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 20.12.2021
WEATHER Overcast

SITE North Hyde Garden Hayes
TIME On: 08:40 Off: 10:55
MONITORING PERSONNEL Chris Fox

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:55:00 AM	4.06	6.74	6.74	36237.42	12.05218	6.662113	2.658293	0.2555088	81.33552	5	Organic	Low	No	Dark grey	High	Organic odour, high turbidity, dark grey colour, no sediments visible, no oil visible
BH102	10:04:00 AM	5.09	7.05	7.05	1339.14	12.03595	7.055538	7.905138	0.8732467	-3.801376	3	Hydrocarbons	Low	No	Cloudy, light grey	Medium	Hydrocarbon odour, no oil visible, no sediments visible, cloudy light grey colour, medium turbidity
BH103	9:04:00 AM	4.07	5.5	5.5	2507.494	11.41388	7.15651	24.15129	2.695387	-0.5278854	3						Water ran dry during per pump low test. Unable to finish test accurately or collect water samples. Level 4.07m at start in 5.50m BH Depth. I believe local ground Piling and excavation, has lead to water seeping out, conn



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 05.01.2022
WEATHER Cloudy

SITE North Hyde Garden Hayes
TIME On: 08:47 Off: 11:13
MONITORING PERSONNEL Richard Ward

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:28:00 AM	3.69	6.64	6.64	38574.27	6.062561	6.657532	10.45356	1.111463	8.554938	4	Chemical	Low	No	Light brown	Moderate	Cloudy light brown, chemical odour, fine sediment, moderate turbidity, no oil visible
BH102	10:54:00 AM	4.09	7	7	2263.574	6.744049	6.949085	4.177615	0.5072693	-202.2142	4	Chemical	Low	No	Cloudy grey	Moderate	Cloudy grey, chemical odour, fine sediment, moderate turbidity, no oil visible
BH103	9:56:00 AM	3.81	5.49	5.49	3175.252	4.404449	7.202437	8.746366	1.12371	-187.4585	4	Odourless	Low	No	Cloudy	Low	Cloudy, odourless, fine sediment, low turbidity, no oil visible



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 19/01/2022
WEATHER Overcast

SITE North Hyde Garden Hayes
TIME On: 08:30 Off: 11:30
MONITORING PERSONNEL Jaimie de la Torre

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:37:00 AM	3.72	6.71	6.71	37698.48	10.37793	7.066597	10.67249	1.040516	167.9017	5	None	High	No	light brown	High	There is 2.21m of standpipe above the ground, water level taking it from the top of the threats
BH102	10:08:00 AM	4.39	7.06	7.06	1012.942	9.837738	7.402896	8.84605	1.012365	173.9718	4	Hydrocarbons	Moderate/fine	No	cloudy	moderate	There is 1.85m of stand pipe above the ground water level taking it from the top of the threats
BH103	11:07:00 AM	3.85	5.51	5.51	3539.458	9.4263	7.80403	10.13931	1.161491	85.73549	3	none	moderate	No	light brown	moderate	There is 0.35m of standpipe above the ground.



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 31/01/2022
WEATHER Sunny

SITE North Hyde Garden Hayes
TIME On: 08:30 Off: 10:15:00
MONITORING PERSONNEL Jaime de la Torre

Monitoring Location	Time	DTL m	DTB m	End m	EC mS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	9:55:00 AM	3.92	6.72	6.72	34459.77	11.39993	6.913275	5.785863	0.5519044	201.0171	3.5	None	High	No	light brown	High	There is 2.21m of standpipe above the ground, water level taking it from the top of the threads
BH102	9:44:00 AM	4.83	7.05	7.05	1372.057	9.692657	7.379906	5.688913	0.6504437	197.2667	3	Hydrocarbons	Moderate/fine	No	light brown	moderate	There is 1.85m of stand pipe above the ground water level taking it from the top of the threads
BH103	9:22:00 AM	3.84	5.51	5.51	3807.059	8.839264	7.592908	7.733596	0.8932291	206.6914	2	sulphur	moderate	No	light brown	moderate	



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 17/09/2012
WEATHER Fair

SITE North Hyde Garden Hayes
TIME On: 09:15 Off: 11:30:00
MONITORING PERSONNEL Gaby McCooker and Ruben Wils

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:20:00 AM	4.3	6.53	6.53	31321.9	11.40439	7.205805	6.098828	0.5896111	161.9198	4	None	Fine/medium	No	Cloudy brown	High	
BH102	10:51:00 AM	4.22	6.97	6.97	1298.411	11.57056	7.141841	5.465999	0.5924406	67.3892	3	Hydrocarbons	Fine	No	Cloudy	Low/moderate	
BH103	11:11:00 AM	4.5	5.4	5.4	3404.859	10.89798	7.081172	9.066641	0.9908896	79.22668	1.5	Weak HC odour	Fine/low	No	Clear	Low	



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 31/03/2022
WEATHER Overcast, Snow, Sunny intervals

SITE North Hyde Garden Hayes
TIME On: 08:00 Off: 13:30:00
MONITORING PERSONNEL Chris Fox

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	10:38:00 AM	3.96	5	5	32556.26	10.81094	7.416176	4.411184	0.4376704	242.4016	5.5	None	Fine	No	Cloudy grey	Low	
BH102	11:30:00 AM	4.65	7.05	7.05	1598.144	9.992397	7.882043	1.941262	0.2219855	174.481	5	Organic	Fine	No	Cloudy grey	Medium	
BH103	9:33:00 AM	4.01	5.5	5.5	3266.231	9.326498	8.09909	5.6267	0.6498844	225.2832	3	None	Fine	No	Cloudy grey	Medium	



Groundwater Monitoring

Low Flow - Sampling Record Sheet

CLIENT Paragon
 DATE 26/05/2012
 WEATHER Overcast and dry

SITE North Hyde Garden Hayes
 TIME Em: 13:15, Off: 16:00:00
 MONITORING PERSONNEL Tracy McCusker

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	3:42:00 PM	4.26	6.68	6.68	10184.72	14.65961	7.449223	8.588995	0.842108	155.9698	2.5	Weak Hydrocarbon	Fine and Low	No	Cloudy	Low to Moderate	
BH102	3:14:00 PM	5.06	7.02	7.02	1594.649	15.52481	7.588887	5.484805	0.5441818	147.6729	2.5	Hydrocarbon	Fine and Low	No	Clear	Low	
BH103	2:48:00 PM	4.25	5.5	5.5	3057.135	17.1315	7.845422	6.849775	0.6538409	147.4154	1.5	Sulphar	Fine and Low	No	Clear	Low	Stopped before stable due to significant drawdown and low recharge



Groundwater Monitoring

Low Flow - Sampling Record Sheet

CLIENT Paragon
 DATE 29/05/2022
 WEATHER Overcast

SITE North Hyde Garden Hayes
 TIME On: 11:15, Off: 15:45:00
 MONITORING PERSONNEL Chris Fox

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	1:43:00 PM	4.5	5	5	22592.44	17.78359	6.439003	3.31734	0.2891808	43.7675	2	Organic	Fine	None	Clear	Low	
BH102	1:05:00 PM	5.6	7.05	7.05	1896.479	17.12308	6.683638	3.067782	0.2926535	-37.5452	2	Organic	Fine	None	Clear	Low	
BH103	12:26:00 PM	4.7	5.5	5.5	3637.38	16.02929	6.83567	2.632495	0.2554676	-15.3174	2.5	Organic sulphurous	Fine	None	Clear	Low to medium	



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT Paragon
DATE 25/07/2022
WEATHER Overcast

SITE North Hyde Garden Hayes
TIME On: 07:01, Off: 10:13
MONITORING PERSONNEL Chris Fox

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Unable to monitor due to landslide of rubble onto BH, caused by digging and excavation work. Bung missing
BH102	8:30:00 AM	4.74	6.95	6.95	2380.41	16.39866	6.932368	2.889764	0.2782939	108.3516	2	Sulphurous	Fine	None	Clear	Low	Bung missing
BH103	7:44:00 AM	4.1	5.5	5.5	4229.761	16.6788	7.122879	3.600741	0.3425879	154.3926	2.5	Organic	Fine	None	Dark grey	Low	Landslide of rocks and soil on BH



Groundwater Monitoring
Low Flow - Sampling Record Sheet

CLIENT: Paragon
DATE: 17/05/2022
WEATHER: Cloudy

SITE: North Hyde Garden Hayes
TIME: On: 11:29 Off: 16:07
MONITORING PERSONNEL: Chris Fox

Monitoring Location	Time	DTL m	DTB m	End m	EC µS/cm	Temp C	pH	DO %	Dissolved Oxygen PPM	ORP mV	Purge Volume L	Odour description	Sediment description	Oil/grease visible	Colour description	Turbidity description	Comments
BH101	12:52:00 PM	4.21	5	5	7863.194	20.17448	7.25081	43.74022	3.857316	181.7551	3	Organic	Fine	None	Slightly cloudy	Low	
BH102	1:31:00 PM	4.85	7.06	7.06	1734.174	17.99992	7.043169	4.652126	0.437261	153.4072	2.5	None	Fine	None	Clear	Low	
BH103	2:10:00 PM	4.17	5.51	5.51	3001.302	17.88214	7.263265	6.235447	0.5850694	147.8234	2.5	None	Fine	None	Slightly cloudy	Low	



a Colliers
Company.

**Appendix 4 –
Groundwater
Chemical Results**

Lab Sample Number				Baseline	Baseline	Baseline	Round 1	Round 1	Round 1	Round 2	Round 2	Round 2
Sample Reference				1965314	1965315	1965316	1982497	1982496	1982498	1995325	1995324	1995326
Sample Number				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Depth (m)				None Supplied								
Date Sampled				05/08/2021	05/08/2021	05/08/2021	19/08/2021	19/08/2021	19/08/2021	31/08/2021	31/08/2021	31/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	1045	1000	1130	1045	1000	1115
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
SVOCS												
Aniline	µg/l	0.05	NONE	< 0.05	9.5	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2-Methylphenol	µg/l	0.05	NONE	< 0.05	240	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	1600**	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Naphthalene	µg/l	0.01	ISO 17025	0.96	790**	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	54	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	µg/l	0.01	ISO 17025	0.24	4.3	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	µg/l	0.01	ISO 17025	0.28	140	I/S	n/t	n/t	n/t	n/t	n/t	n/t
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzofuran	µg/l	0.05	NONE	< 0.05	69	I/S	n/t	n/t	n/t	n/t	n/t	n/t
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	µg/l	0.01	ISO 17025	0.25	70	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	µg/l	0.01	ISO 17025	1.1	91	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	µg/l	0.01	ISO 17025	0.59	10	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Carbazole	µg/l	0.05	NONE	< 0.05	49	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Antraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	µg/l	0.01	ISO 17025	2.2	14	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	µg/l	0.01	ISO 17025	2.5	8.4	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	µg/l	0.01	ISO 17025	1.8	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	µg/l	0.01	ISO 17025	1.7	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	2	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.74	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)pyrene	µg/l	0.01	ISO 17025	1.6	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.98	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	1.1	< 0.01	I/S	n/t	n/t	n/t	n/t	n/t	n/t
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	I/S	n/t	n/t	n/t	n/t	n/t	n/t
Gases												
Methane	mg/L	0.1	NONE	< 0.1	2.8	2.1	< 0.1	3.6	< 0.1	< 0.1	14	6.3

Lab Sample Number				Round 3	Round 3	Round 3	Round 4	Round 4	Round 4	Round 5	Round 5	Round 5
Sample Reference				2012776	2012775	2012777	2031962	2031963	2031964	2048647	2048647	2048647
Sample Number				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Depth (m)				None Supplied								
Date Sampled				6.00-6.00	6.00-6.00	5.00-5.00	4.50-4.5	6.50-6.50	5.00-5.00	None Supplied	None Supplied	None Supplied
Time Taken				14/09/2021	14/09/2021	14/09/2021	30/09/2021	30/09/2021	30/09/2021	13/10/2021	13/10/2021	13/10/2021
Analytical Parameter (Water Analysis)	Units	Limit of detection	Acceleration Status									
General Inorganics												
pH	pH Units	N/A	ISO 17025	6.6	6.9	7.2	6.6	6.9	7	6.7	7.3	7.4
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	n/t								
Total Cyanide	µg/l	10	ISO 17025	n/t								
Complex Cyanide	µg/l	10	ISO 17025	n/t								
Free Cyanide	µg/l	10	ISO 17025	n/t								
Sulphate as SO4	µg/l	45	ISO 17025	353	24.5	364	408	224	500	580	188	531
Total Sulphur	µg/l	15	NONE	120000	8200	120000	140000	75000	170000	190000	63000	180000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	n/t								
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4700	6300	7900	3800	3100	8300	3700	3800	5000
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	n/t								
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	5.1	57.3	41.1	6.83	37.2	48.3	4.73	35.5	32.1
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	n/t								
Nitrate as NO3	mg/l	0.01	ISO 17025	0.58	0.55	0.43	0.39	4.65	0.18	3.07	1.09	0.58
Nitrite as NO2	mg/l	0.05	ISO 17025	2.58	2.43	1.91	1.71	20.6	0.78	13.6	4.81	2.59
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	180	56	16	410	16	2.7
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	610	190	54	1400	51	8.8
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	350	230	380	390	110	320	780	120	280
BOD (Biochemical Oxygen Demand) (5 days)	mg/l	1	ISO 17025	1.2	1	5.4	< 1.0	13	2.9	1.3	12	6.1
Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Phenols by HPLC												
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	6600	< 0.5	< 0.5	1700	< 0.5	< 0.5	2500	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Phenols												
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 3.5	6600	< 3.5	< 3.5	1700	< 3.5	< 3.5	2500	< 3.5
Speciated PAHs												
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	1.01	2.43	< 0.01	16.7	4.44	< 0.01	4.5	0.76
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	0.87	0.87	< 0.01	< 0.01	2.76	< 0.01	0.64	0.49
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	47.4	8.43	< 0.01	46.5	19.2	< 0.01	22.3	1.56
Fluorene	µg/l	0.01	ISO 17025	< 0.01	25.7	8.26	< 0.01	25.7	20.4	< 0.01	11	1.26
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	11.3	16.1	< 0.01	19	60.6	< 0.01	8.05	3.16
Anthracene	µg/l	0.01	ISO 17025	< 0.01	2.27	34.8	< 0.01	2.81	127	< 0.01	1.73	9.02
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	5.05	25.4	< 0.01	6.04	129	< 0.01	4.38	12.6
Pyrene	µg/l	0.01	ISO 17025	< 0.01	3.01	21.8	< 0.01	3.74	106	< 0.01	2.68	10.8
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.56	5.41	< 0.01	0.62	27.4	< 0.01	0.7	3.35
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.44	6.08	< 0.01	0.59	27.9	< 0.01	0.54	3.63
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.84	< 0.01	0.22	21.9	< 0.01	0.24	3.05
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.7	< 0.01	0.13	7.87	< 0.01	0.12	0.94
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.4	< 0.01	< 0.01	12.8	< 0.01	< 0.01	1.9
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.81	< 0.01	< 0.01	3.65	< 0.01	< 0.01	0.78
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.21	< 0.01	< 0.01	1.19	< 0.01	< 0.01	0.22
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.85	< 0.01	< 0.01	4.12	< 0.01	< 0.01	0.77
Total PAH												
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	96.8	139	< 0.16	122	576	< 0.16	56.9	54.4
Heavy Metals / Metalloids												
Boron (dissolved)	µg/l	10	ISO 17025	n/t								
Calcium (dissolved)	mg/l	0.012	ISO 17025	880	240	340	550	170	390	1300	190	360
Chromium (hexavalent)	µg/l	5	ISO 17025	n/t								
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7	n/t	n/t	< 0.7	n/t	n/t	< 0.7	n/t	n/t
Iron (dissolved)	mg/l	0.004	ISO 17025	0.11	0.13	0.41	2.1	1.3	2.1	2.7	0.59	0.29
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	1.8	< 0.20	0.2
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	0.3	2.11	1.29	2.01	0.95	0.57	< 0.20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	n/t								
Mn (II)	mg/l	0.02	NONE	3.35	0.77	0.78	7.92	1.4	1.85	7.99	1.03	1.32
Mn (IV)	mg/l	0.02	NONE	7.48	2.59	1.58	0.42	0.45	0.86	5.69	1.28	1.28
Phosphorus (dissolved)	µg/l	20	ISO 17025	n/t								
Potassium (dissolved)	mg/l	0.025	ISO 17025	n/t								
Sodium (dissolved)	mg/l	0.01	ISO 17025	n/t								
Antimony (dissolved)	µg/l	0.4	ISO 17025	n/t								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	34.3	14	22.1	16.3	2.55	17.3	79.7	2.15	12.2
Barium (dissolved)	µg/l	0.06	ISO 17025	n/t								
Beryllium (dissolved)	µg/l	0.1	ISO 17025	n/t								
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.22	< 0.02	< 0.02	0.75	< 0.02	< 0.02	4.4	< 0.02	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.2	7.9	6.4	2.2	2.9	6.1	7.8	6.5	8.6
Cobalt (dissolved)	µg/l	0.2	ISO 17025	n/t								
Copper (dissolved)	µg/l	0.5	ISO 17025	1.3	3.4	3.4	7.8	5.2	6.2	6.2	6.6	6.6
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.2	< 0.2	0.2	1.1	< 0.2	< 0.2	0.3
Manganese (dissolved)	µg/l	0.05	ISO 17025	n/t								
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	n/t								
Nickel (dissolved)	µg/l	0.5	ISO 17025	12	4.9	12	7.3	4.3	7.8	48	6.9	15
Selenium (dissolved)	µg/l	0.6	ISO 17025	11	2.6	3.5	32	8.5	5.2	29	4.8	8.3
Tin (dissolved)	µg/l	0.2	ISO 17025	n/t								
Vanadium (dissolved)	µg/l	0.2	ISO 17025	n/t								
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.8	8.6	2	3.4	4.4	2.8	20	11	7.1
Monoaromatics & Oxygenates												
Benzene	µg/l	1	ISO 17025	< 1.0	48.3	< 1.0	< 1.0	14.5	< 1.0	< 1.0	18.1	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	24.4	< 1.0	< 1.0	10.1	< 1.0	< 1.0	9.1	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	19.9	< 1.0	< 1.0	8.9	< 1.0	< 1.0	8.9	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	21.7	< 1.0	< 1.0	10.5	< 1.0	< 1.0	9.4	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	14.7	< 1.0	< 1.0	6.2	< 1.0	< 1.0	6.4	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l</											

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Date Sampled	Time Taken	Analytical Parameter (Water Analysis)	Units	Limit of detection	Accuracy Status	Round 3	Round 3	Round 3	Round 4	Round 4	Round 4	Round 5	Round 5	Round 5
										2012776	2012775	2012774	2031962	2031963	2031964	2048648	2048647	2048649
										BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
										None Supplied								
										6.00-6.00	6.00-6.00	5.00-5.00	4.50-4.5	6.50-6.50	5.00-5.00	5.00-5.00	5.00-5.00	5.00-5.00
										14/09/2021	14/09/2021	14/09/2021	30/09/2021	30/09/2021	30/09/2021	13/10/2021	13/10/2021	13/10/2021
										1030	1000	1100	1123	1056	957	930	900	1015
Petroleum Hydrocarbons																		
Mineral Oil (C10 - C40)		µg/l	10	NONE	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Diesel Range Organics (C10 - C25)		µg/l	10	NONE	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
TPH1 (C10 - C40)		µg/l	10	NONE	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
TPH2 (C6 - C10)		µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
TPH-CWG - Aliphatic >C5 - C6		µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8		µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10		µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12		µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16		µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21		µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C25		µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)		µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7		µg/l	1	ISO 17025	< 1.0	48	< 1.0	< 1.0	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8		µg/l	1	ISO 17025	< 1.0	24	< 1.0	< 1.0	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10		µg/l	1	ISO 17025	< 1.0	63	< 1.0	< 1.0	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12		µg/l	10	NONE	< 10	< 10	< 10	< 10	1300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16		µg/l	10	NONE	< 10	240	< 10	< 10	3700	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21		µg/l	10	NONE	< 10	870	< 10	< 10	1500	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C25		µg/l	10	NONE	< 10	< 10	< 10	< 10	110	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)		µg/l	10	NONE	< 10	1200	< 10	< 10	6500	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
VOCS																		
Chloromethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Chloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Bromomethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Vinyl Chloride		µg/l	1	NONE	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Trichlorofluoromethane		µg/l	1	NONE	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1-Dichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1,2-Trichloro-1,2,2-trifluoroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Cis-1,2-dichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
MTBE (Methyl Tertiary Butyl Ether)		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1-Dichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
2,2-Dichloropropane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Trichloromethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1,1-Trichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,2-Dichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1-Dichloropropene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Trans-1,2-dichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Benzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Tetrachloromethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,2-Dichloropropane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Trichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Dibromomethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Bromodichloromethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Cis-1,3-dichloropropene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Trans-1,3-dichloropropene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Toluene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1,2-Trichloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,3-Dichloropropane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Dibromochloromethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Tetrachloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,2-Dibromoethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Chlorobenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1,1,2-Tetrachloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
p & m-Xylene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Styrene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Tribromomethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
o-Xylene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,1,2,2-Tetrachloroethane		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Isopropylbenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Bromobenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
n-Propylbenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
2-Chlorotoluene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
4-Chlorotoluene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,3,5-Trimethylbenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
tert-Butylbenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
1,2,4-Trimethylbenzene		µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
sec-Butylbenzene		µg/l																

				Round 3	Round 3	Round 3	Round 4	Round 4	Round 4	Round 5	Round 5	Round 5
Lab Sample Number				2012776	2012775	2012777	2031962	2031963	2031964	2048648	2048647	2048649
Sample Reference				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied								
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00	4.50-4.5	6.50-6.50	5.00-5.00	None Supplied	None Supplied	None Supplied
Date Sampled				14/09/2021	14/09/2021	14/09/2021	30/09/2021	30/09/2021	30/09/2021	13/10/2021	13/10/2021	13/10/2021
Time Taken				1030	1000	1100	1123	1056	957	930	900	1015
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
SVOCs												
Aniline	µg/l	0.05	NONE	n/t								
Phenol	µg/l	0.05	NONE	n/t								
2-Chlorophenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	n/t								
1,3-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,2-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,4-Dichlorobenzene	µg/l	0.05	NONE	n/t								
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	n/t								
2-Methylphenol	µg/l	0.05	NONE	n/t								
Hexachloroethane	µg/l	0.05	NONE	n/t								
Nitrobenzene	µg/l	0.05	NONE	n/t								
4-Methylphenol	µg/l	0.05	NONE	n/t								
Isophorone	µg/l	0.05	NONE	n/t								
2-Nitrophenol	µg/l	0.05	NONE	n/t								
2,4-Dimethylphenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	n/t								
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	n/t								
Naphthalene	µg/l	0.01	ISO 17025	n/t								
2,4-Dichlorophenol	µg/l	0.05	NONE	n/t								
4-Chloroaniline	µg/l	0.05	NONE	n/t								
Hexachlorobutadiene	µg/l	0.05	NONE	n/t								
4-Chloro-3-methylphenol	µg/l	0.05	NONE	n/t								
2,4,6-Trichlorophenol	µg/l	0.05	NONE	n/t								
2,4,5-Trichlorophenol	µg/l	0.05	NONE	n/t								
2-Methylnaphthalene	µg/l	0.05	NONE	n/t								
2-Chloronaphthalene	µg/l	0.05	NONE	n/t								
Dimethylphthalate	µg/l	0.05	NONE	n/t								
2,6-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Acenaphthylene	µg/l	0.01	ISO 17025	n/t								
Acenaphthene	µg/l	0.01	ISO 17025	n/t								
2,4-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Dibenzofuran	µg/l	0.05	NONE	n/t								
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Diethyl phthalate	µg/l	0.05	NONE	n/t								
4-Nitroaniline	µg/l	0.05	NONE	n/t								
Fluorene	µg/l	0.01	ISO 17025	n/t								
Azobenzene	µg/l	0.05	NONE	n/t								
Bromophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Hexachlorobenzene	µg/l	0.05	NONE	n/t								
Phenanthrene	µg/l	0.01	ISO 17025	n/t								
Anthracene	µg/l	0.01	ISO 17025	n/t								
Carbazole	µg/l	0.05	NONE	n/t								
Dibutyl phthalate	µg/l	0.05	NONE	n/t								
Antraquinone	µg/l	0.05	NONE	n/t								
Fluoranthene	µg/l	0.01	ISO 17025	n/t								
Pyrene	µg/l	0.01	ISO 17025	n/t								
Butyl benzyl phthalate	µg/l	0.05	NONE	n/t								
Benzo(a)anthracene	µg/l	0.01	ISO 17025	n/t								
Chrysene	µg/l	0.01	ISO 17025	n/t								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(a)pyrene	µg/l	0.01	ISO 17025	n/t								
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	n/t								
Dibenzo(a,h)anthracene	µg/l	0.01	ISO 17025	n/t								
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	n/t								
3&4-Methylphenol	µg/l	0.1	NONE	n/t								
Gases												
Methane	mg/L	0.1	NONE	< 0.1	0.8	< 0.1	< 0.1*	2.3*	6.8*	< 0.1	3.6	1.9

				Round 6	Round 6	Round 6	Round 7	Round 7	Round 7	Round 8	Round 8	Round 8
Lab Sample Number				2065492	2065493	2065494	2080604	2080603	2080605	2093804	2093805	2093806
Sample Reference				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	BH101	BH102	BH103	None Supplied	None Supplied	None Supplied
Depth (m)				6.50-6.50	6.50-6.50	5.00-5.00	6.00-6.00	6.00-6.00	5.00-5.00	6.50-6.50	6.50-6.50	5.00-5.00
Date Sampled				28/10/2021	28/10/2021	28/10/2021	10/11/2021	10/11/2021	10/11/2021	23/11/2021	23/11/2021	23/11/2021
Time Taken				1015	1040	1110	None Supplied	None Supplied	None Supplied	1110	1030	1130
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
SVOCs												
Aniline	µg/l	0.05	NONE	n/t								
Phenol	µg/l	0.05	NONE	n/t								
2-Chlorophenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	n/t								
1,3-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,2-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,4-Dichlorobenzene	µg/l	0.05	NONE	n/t								
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	n/t								
2-Methylphenol	µg/l	0.05	NONE	n/t								
Hexachloroethane	µg/l	0.05	NONE	n/t								
Nitrobenzene	µg/l	0.05	NONE	n/t								
4-Methylphenol	µg/l	0.05	NONE	n/t								
Isophorone	µg/l	0.05	NONE	n/t								
2-Nitrophenol	µg/l	0.05	NONE	n/t								
2,4-Dimethylphenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	n/t								
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	n/t								
Naphthalene	µg/l	0.01	ISO 17025	n/t								
2,4-Dichlorophenol	µg/l	0.05	NONE	n/t								
4-Chloroaniline	µg/l	0.05	NONE	n/t								
Hexachlorobutadiene	µg/l	0.05	NONE	n/t								
4-Chloro-3-methylphenol	µg/l	0.05	NONE	n/t								
2,4,6-Trichlorophenol	µg/l	0.05	NONE	n/t								
2,4,5-Trichlorophenol	µg/l	0.05	NONE	n/t								
2-Methylnaphthalene	µg/l	0.05	NONE	n/t								
2-Chloronaphthalene	µg/l	0.05	NONE	n/t								
Dimethylphthalate	µg/l	0.05	NONE	n/t								
2,6-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Acenaphthylene	µg/l	0.01	ISO 17025	n/t								
Acenaphthene	µg/l	0.01	ISO 17025	n/t								
2,4-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Dibenzofuran	µg/l	0.05	NONE	n/t								
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Diethyl phthalate	µg/l	0.05	NONE	n/t								
4-Nitroaniline	µg/l	0.05	NONE	n/t								
Fluorene	µg/l	0.01	ISO 17025	n/t								
Azobenzene	µg/l	0.05	NONE	n/t								
Bromophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Hexachlorobenzene	µg/l	0.05	NONE	n/t								
Phenanthrene	µg/l	0.01	ISO 17025	n/t								
Anthracene	µg/l	0.01	ISO 17025	n/t								
Carbazole	µg/l	0.05	NONE	n/t								
Dibutyl phthalate	µg/l	0.05	NONE	n/t								
Antraquinone	µg/l	0.05	NONE	n/t								
Fluoranthene	µg/l	0.01	ISO 17025	n/t								
Pyrene	µg/l	0.01	ISO 17025	n/t								
Butyl benzyl phthalate	µg/l	0.05	NONE	n/t								
Benzo(a)anthracene	µg/l	0.01	ISO 17025	n/t								
Chrysene	µg/l	0.01	ISO 17025	n/t								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(a)pyrene	µg/l	0.01	ISO 17025	n/t								
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	n/t								
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	n/t								
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	n/t								
3&4-Methylphenol	µg/l	0.1	NONE	n/t								
Gases												
Methane	mg/L	0.1	NONE	< 0.1*	1.1*	< 0.1*	< 0.1	6.7	2.6	< 0.1	6.5	1.2

Lab Sample Number				Round 9	Round 9	Round 9	Round 10	Round 10	Round 10	Round 10	Round 11	Round 11	Round 11
Sample Reference				2110773	2110772	2110771	2124976	2124977	2124978	2124979	2131674	2131675	2131676
Sample Number				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH101	BH102	BH103
Depth (m)				None Supplied									
Date Sampled				07/12/2021	07/12/2021	07/12/2021	20/12/2021	20/12/2021	20/12/2021	05/01/2022	05/01/2022	05/01/2022	05/01/2022
Time Taken				None Supplied									
Analytical Parameter (Water Analysis)	Units	Limit of detection	Acceleration Status										
General Inorganics													
pH	pH Units	N/A	ISO 17025	6.8	7.1	7.2	7.1	7.5	Dry	6.8	7	7.2	
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	n/t									
Total Cyanide	µg/l	10	ISO 17025	n/t									
Complex Cyanide	µg/l	10	ISO 17025	n/t									
Free Cyanide	µg/l	10	ISO 17025	n/t									
Sulphate as SO4	µg/l	45	ISO 17025	340	72.5	330	381	68.4	Dry	476	51.1	765	
Total Sulphur	µg/l	15	NONE	110000	24000	110000	130000	23000	Dry	160000	17000	260000	
Sulphide	µg/l	5	NONE	< 5.0	U/S*	U/S*	< 5.0	< 5.0	Dry	< 5.0	< 5.0	< 5.0	
Chloride	mg/l	0.15	ISO 17025	n/t									
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	2600	3700	6300	1800	3600	Dry	950	3200	4700	
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	n/t									
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.3	35.9	28.1	8.01	28.8	Dry	3.54	44.3	25.4	
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	n/t									
Nitrate as N	mg/l	0.01	ISO 17025	0.45	0.89	0.17	2.72	0.35	Dry	6.97	0.11	0.14	
Nitrate as NO3	mg/l	0.05	ISO 17025	2.01	3.96	0.77	12	1.56	Dry	30.9	0.47	0.63	
Nitrite as NO2	µg/l	1	ISO 17025	250	2.4	< 1.0	360	16	Dry	240	12	< 1.0	
Nitrite as NO2	µg/l	5	ISO 17025	810	8	< 5.0	1200	54	Dry	780	38	< 5.0	
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	400	130	130	850	120	Dry	740	190	84	
BOD (Biochemical Oxygen Demand) (5 days)	mg/l	1	ISO 17025	3.9	20	5.3	3	6.7	Dry	2.8	31	3.5	
Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	Dry	< 10	< 10	< 10	
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	Dry	< 1.0	< 1.0	< 1.0	
Phenols by HPLC													
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Dry	< 0.5	< 0.5	< 0.5	
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Dry	< 0.5	< 0.5	< 0.5	
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Dry	< 0.5	4200	< 0.5	
Cresols	µg/l	0.5	NONE	< 0.5	1100	< 0.5	< 0.5	< 0.5	Dry	< 0.5	< 0.5	< 0.5	
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Dry	< 0.5	< 0.5	< 0.5	
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Dry	< 0.5	< 0.5	< 0.5	
Phenol	µg/l	0.5	NONE	< 0.5	4000	< 0.5	< 0.5	< 0.5	Dry	< 0.5	3600	< 0.5	
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	Dry	< 0.5	< 0.5	< 0.5	
Total Phenols													
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 3.5	5100	< 3.5	< 3.5	< 3.5	Dry	< 3.5	7800	< 3.5	
Speciated PAHs													
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	3.79	1.62	< 0.01	< 0.01	Dry	< 0.01	356	1.38	
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	0.59	< 0.01	< 0.01	< 0.01	Dry	< 0.01	1.66	0.24	
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	24.1	10.6	< 0.01	35.1	Dry	< 0.01	42.2	5.61	
Fluorene	µg/l	0.01	ISO 17025	< 0.01	12.7	6.37	< 0.01	18.9	Dry	< 0.01	22.1	2.84	
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	9	5.63	< 0.01	7.62	Dry	< 0.01	23.8	1.73	
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.54	26	< 0.01	1.4	Dry	< 0.01	4.5	1.77	
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.41	18.2	< 0.01	2.68	Dry	< 0.01	10.3	1.13	
Pyrene	µg/l	0.01	ISO 17025	< 0.01	1.41	14.6	< 0.01	1.32	Dry	< 0.01	6.6	0.81	
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.62	< 0.01	< 0.01	Dry	< 0.01	1.13	< 0.01	
Chrysene	µg/l	0.01	ISO 17025	< 0.01	3.17	< 0.01	< 0.01	< 0.01	Dry	< 0.01	0.81	< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.71	< 0.01	< 0.01	Dry	< 0.01	0.44	< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.62	< 0.01	< 0.01	Dry	< 0.01	0.12	< 0.01	
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.94	< 0.01	< 0.01	Dry	< 0.01	0.3	< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Dry	< 0.01	< 0.01	< 0.01	
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Dry	< 0.01	< 0.01	< 0.01	
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	Dry	< 0.01	< 0.01	< 0.01	
Total PAH													
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	54.9	92.6	< 0.16	67	Dry	< 0.16	470	15.5	
Heavy Metals / Metalloids													
Boron (dissolved)	µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Calcium (dissolved)	mg/l	0.012	ISO 17025	950	170	360	780	140	Dry	690	180	420	
Chromium (hexavalent)	µg/l	5	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Copper (dissolved)	µg/l	0.7	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	< 0.7	n/t	n/t	n/t
Iron (dissolved)	mg/l	0.004	ISO 17025	950	170	360	0.06	0.15	Dry	0.34	0.083	0.25	
Fe2+	mg/l	0.2	NONE	950	170	360	< 0.20	< 0.20	Dry	< 0.20	< 0.20	< 0.20	
Fe3+	mg/l	0.2	NONE	950	170	360	< 0.20	< 0.20	Dry	0.3	< 0.20	0.24	
Magnesium (dissolved)	mg/l	0.005	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Mn (II)	mg/l	0.02	NONE	950	170	360	0.8	0.29	Dry	0.46	0.28	0.7	
Mn (IV)	mg/l	0.02	NONE	950	170	360	7.18	1.2	Dry	5.32	2.03	1.38	
Phosphorus (dissolved)	µg/l	20	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Potassium (dissolved)	mg/l	0.025	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Sodium (dissolved)	mg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Antimony (dissolved)	µg/l	0.4	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Arsenic (dissolved)	µg/l	0.15	ISO 17025	45.3	2.35	2.51	39.7	3.61	Dry	29.2	2.92	4.46	
Barium (dissolved)	µg/l	0.06	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Beryllium (dissolved)	µg/l	0.1	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.97	< 0.02	< 0.02	1.7	< 0.02	Dry	1.6	< 0.02	< 0.02	
Chromium (dissolved)	µg/l	0.2	ISO 17025	7.5	5.3	6.3	4	3.8	Dry	3.4	4.7	3.6	
Cobalt (dissolved)	µg/l	0.2	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Copper (dissolved)	µg/l	0.5	ISO 17025	160	4.4	3	-	5.7	Dry	n/t	5	5.7	
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	0.4	< 0.2	< 0.2	Dry	0.5	< 0.2	0.7	
Manganese (dissolved)	µg/l	0.05	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.06	< 0.05	< 0.05	< 0.05	< 0.05	Dry	< 0.05	< 0.05	< 0.05	
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Nickel (dissolved)	µg/l	0.5	ISO 17025	18	7.4	9.6	46	7.2	Dry	19	5.5	7.7	
Selenium (dissolved)	µg/l	0.6	ISO 17025	14	2.5	2.1	13	1.8	Dry	16	1.4	2.3	
Tin (dissolved)	µg/l	0.2	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Vanadium (dissolved)	µg/l	0.2	ISO 17025	n/t	n/t	n/t	n/t	n/t	Dry	n/t	n/t	n/t	n/t
Zinc (dissolved)	µg/l	0.5	ISO 17025	18	9.5	13	11	11	Dry	7.7	2.9	4.1	
Monoaromatics & Oxygenates													
Benzene	µg/l	1	ISO 17025	< 1.0	35.4	< 1.0	< 1.0	17.5	Dry	< 1.0	28.8	< 1.0	
Toluene	µg/l	1	ISO 17025	< 1.0	15.3	< 1.0	< 1.0	12.9	Dry	< 1.0	14.6	< 1.0	
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	11.8	< 1.0	< 1.0	13.3	Dry	< 1.0	17.1	< 1.0	
p & m-xylene	µg												

				Round 9	Round 9	Round 9	Round 10	Round 10	Round 10	Round 11	Round 11	Round 11
Lab Sample Number				2110773	2110772	2110771	2124976	2124977	2124977	2131674	2131675	2131676
Sample Reference				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied								
Depth (m)				None Supplied	3.69-6.64	4.09-7.00	3.81-5.49					
Date Sampled				07/12/2021	07/12/2021	07/12/2021	20/12/2021	20/12/2021	20/12/2021	05/01/2022	05/01/2022	05/01/2022
Time Taken				None Supplied								
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
SVOCs												
Aniline	µg/l	0.05	NONE	n/t								
Phenol	µg/l	0.05	NONE	n/t								
2-Chlorophenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	n/t								
1,3-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,2-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,4-Dichlorobenzene	µg/l	0.05	NONE	n/t								
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	n/t								
2-Methylphenol	µg/l	0.05	NONE	n/t								
Hexachloroethane	µg/l	0.05	NONE	n/t								
Nitrobenzene	µg/l	0.05	NONE	n/t								
4-Methylphenol	µg/l	0.05	NONE	n/t								
Isophorone	µg/l	0.05	NONE	n/t								
2-Nitrophenol	µg/l	0.05	NONE	n/t								
2,4-Dimethylphenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	n/t								
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	n/t								
Naphthalene	µg/l	0.01	ISO 17025	n/t								
2,4-Dichlorophenol	µg/l	0.05	NONE	n/t								
4-Chloroaniline	µg/l	0.05	NONE	n/t								
Hexachlorobutadiene	µg/l	0.05	NONE	n/t								
4-Chloro-3-methylphenol	µg/l	0.05	NONE	n/t								
2,4,6-Trichlorophenol	µg/l	0.05	NONE	n/t								
2,4,5-Trichlorophenol	µg/l	0.05	NONE	n/t								
2-Methylnaphthalene	µg/l	0.05	NONE	n/t								
2-Chloronaphthalene	µg/l	0.05	NONE	n/t								
Dimethylphthalate	µg/l	0.05	NONE	n/t								
2,6-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Acenaphthylene	µg/l	0.01	ISO 17025	n/t								
Acenaphthene	µg/l	0.01	ISO 17025	n/t								
2,4-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Dibenzofuran	µg/l	0.05	NONE	n/t								
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Diethyl phthalate	µg/l	0.05	NONE	n/t								
4-Nitroaniline	µg/l	0.05	NONE	n/t								
Fluorene	µg/l	0.01	ISO 17025	n/t								
Azobenzene	µg/l	0.05	NONE	n/t								
Bromophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Hexachlorobenzene	µg/l	0.05	NONE	n/t								
Phenanthrene	µg/l	0.01	ISO 17025	n/t								
Anthracene	µg/l	0.01	ISO 17025	n/t								
Carbazole	µg/l	0.05	NONE	n/t								
Dibutyl phthalate	µg/l	0.05	NONE	n/t								
Antraquinone	µg/l	0.05	NONE	n/t								
Fluoranthene	µg/l	0.01	ISO 17025	n/t								
Pyrene	µg/l	0.01	ISO 17025	n/t								
Butyl benzyl phthalate	µg/l	0.05	NONE	n/t								
Benzo(a)anthracene	µg/l	0.01	ISO 17025	n/t								
Chrysene	µg/l	0.01	ISO 17025	n/t								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(a)pyrene	µg/l	0.01	ISO 17025	n/t								
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	n/t								
Dibenzo(a,h)anthracene	µg/l	0.01	ISO 17025	n/t								
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	n/t								
3&4-Methylphenol	µg/l	0.1	NONE	n/t								
Gases												
Methane	mg/L	0.1	NONE	< 0.1	5.1	7.3	< 0.1	4.3	Dry	< 0.1	3.5	1.9

				Round 12	Round 12	Round 12	Round 13	Round 13	Round 13	Round 14	Round 14	Round 14
Lab Sample Number				2144739	2144738	2144740	2159894	2159893	2159895	2180164	2180165	2180166
Sample Reference				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	BH101	BH102	BH103	None Supplied	None Supplied	None Supplied
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00	6.00-6.00	6.00-6.00	5.00-5.00	6.5	6.3	5
Date Sampled				19/01/2022	19/01/2022	19/01/2022	31/01/2022	31/01/2022	31/01/2022	17/02/2022	17/02/2022	17/02/2022
Time Taken				None Supplied	1013	1050	1113					
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
SVOCs												
Aniline	µg/l	0.05	NONE	n/t								
Phenol	µg/l	0.05	NONE	n/t								
2-Chlorophenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	n/t								
1,3-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,2-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,4-Dichlorobenzene	µg/l	0.05	NONE	n/t								
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	n/t								
2-Methylphenol	µg/l	0.05	NONE	n/t								
Hexachloroethane	µg/l	0.05	NONE	n/t								
Nitrobenzene	µg/l	0.05	NONE	n/t								
4-Methylphenol	µg/l	0.05	NONE	n/t								
Isophorone	µg/l	0.05	NONE	n/t								
2-Nitrophenol	µg/l	0.05	NONE	n/t								
2,4-Dimethylphenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	n/t								
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	n/t								
Naphthalene	µg/l	0.01	ISO 17025	n/t								
2,4-Dichlorophenol	µg/l	0.05	NONE	n/t								
4-Chloroaniline	µg/l	0.05	NONE	n/t								
Hexachlorobutadiene	µg/l	0.05	NONE	n/t								
4-Chloro-3-methylphenol	µg/l	0.05	NONE	n/t								
2,4,6-Trichlorophenol	µg/l	0.05	NONE	n/t								
2,4,5-Trichlorophenol	µg/l	0.05	NONE	n/t								
2-Methylnaphthalene	µg/l	0.05	NONE	n/t								
2-Chloronaphthalene	µg/l	0.05	NONE	n/t								
Dimethylphthalate	µg/l	0.05	NONE	n/t								
2,6-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Acenaphthylene	µg/l	0.01	ISO 17025	n/t								
Acenaphthene	µg/l	0.01	ISO 17025	n/t								
2,4-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Dibenzofuran	µg/l	0.05	NONE	n/t								
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Diethyl phthalate	µg/l	0.05	NONE	n/t								
4-Nitroaniline	µg/l	0.05	NONE	n/t								
Fluorene	µg/l	0.01	ISO 17025	n/t								
Azobenzene	µg/l	0.05	NONE	n/t								
Bromophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Hexachlorobenzene	µg/l	0.05	NONE	n/t								
Phenanthrene	µg/l	0.01	ISO 17025	n/t								
Anthracene	µg/l	0.01	ISO 17025	n/t								
Carbazole	µg/l	0.05	NONE	n/t								
Dibutyl phthalate	µg/l	0.05	NONE	n/t								
Antraquinone	µg/l	0.05	NONE	n/t								
Fluoranthene	µg/l	0.01	ISO 17025	n/t								
Pyrene	µg/l	0.01	ISO 17025	n/t								
Butyl benzyl phthalate	µg/l	0.05	NONE	n/t								
Benzo(a)anthracene	µg/l	0.01	ISO 17025	n/t								
Chrysene	µg/l	0.01	ISO 17025	n/t								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(a)pyrene	µg/l	0.01	ISO 17025	n/t								
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	n/t								
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	n/t								
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	n/t								
3&4-Methylphenol	µg/l	0.1	NONE	n/t								
Gases												
Methane	mg/L	0.1	NONE	< 0.1	0.6	1.2	< 0.1	1.6	2.9	< 0.1	0.9	1.8

				Round 15	Round 15	Round 15	Round 16	Round 16	Round 16	Round 17	Round 17	Round 17
Lab Sample Number				2226446	2226447	2226448	2294582	2294583	2294584	2335358	2335359	2335360
Sample Reference				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied								
Depth (m)				None Supplied	None Supplied	None Supplied	6.50-6.50	6.50-6.50	5.00-5.00	None Supplied	None Supplied	None Supplied
Date Sampled				31/03/2022	31/03/2022	31/03/2022	26/05/2022	26/05/2022	26/05/2022	29/06/2022	29/06/2022	29/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	1540	1510	1440	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Acceleration Status									
General Inorganics												
pH	pH Units	N/A	ISO 17025	6.8	7	7.2	6.8	7.3	7.2	6.9	7	7.2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	n/t								
Total Cyanide	µg/l	10	ISO 17025	n/t								
Complex Cyanide	µg/l	10	ISO 17025	n/t								
Free Cyanide	µg/l	10	ISO 17025	n/t								
Sulphate as SO4	µg/l	45	ISO 17025	610	278	848	298	118	636	515	115	423
Total Sulphur	µg/l	15	NONE	200000	93000	280000	99000	39000	210000	170000	38000	140000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	n/t								
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	290	2700	5300	220	3400	6200	310	3600	8200
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	n/t								
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.37	17.9	27.9	6.61	20.2	35.8	4.99	19.9	37.1
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	n/t								
Nitrate as N	mg/l	0.01	ISO 17025	6.12	0.15	0.15	1.71	0.24	0.35	2.52	0.33	0.69
Nitrate as NO3	mg/l	0.05	ISO 17025	27.1	0.68	0.68	7.57	1.04	1.57	11.2	1.45	3.06
Nitrite as N	µg/l	1	ISO 17025	210	< 1.0	6.2	36	< 1.0	< 1.0	39	7.2	11
Nitrite as NO2	µg/l	5	ISO 17025	680	< 5.0	20	120	< 5.0	< 5.0	130	24	36
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	330	66	180	94	68	120	120	78	130
BOD (Biochemical Oxygen Demand) (5 days)	mg/l	1	ISO 17025	3.2	4.6	4.6	< 1.0	5.9	18	1.1	6.6	6.2
Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Phenols by HPLC												
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	120	960	< 0.5	< 0.5	920	< 0.5	< 0.5	2100	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Phenols												
Total Phenols (monohydric)	µg/l	10	ISO 17025	120	960	< 3.5	< 3.5	920	< 3.5	< 3.5	2100	< 3.5
Speciated PAHs												
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.98	< 0.01	1.76	< 0.01	< 0.01	< 0.01	0.93
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	0.78	1.51	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.77
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	15.9	3.23	< 0.01	6.84	13.7	< 0.01	13.1	2.33
Fluorene	µg/l	0.01	ISO 17025	< 0.01	6.86	3.67	< 0.01	2.15	6.39	< 0.01	6.43	1.72
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	2.82	10.3	< 0.01	< 0.01	3.91	< 0.01	3.95	4.12
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.64	30.6	< 0.01	1.47	0.68	< 0.01	0.61	11.6
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.02	55.6	< 0.01	1.44	1.27	< 0.01	0.87	29.2
Pyrene	µg/l	0.01	ISO 17025	< 0.01	1.17	47	< 0.01	0.96	0.76	< 0.01	0.43	24.4
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	11.9	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	5.46
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	10.9	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	5.6
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	8.57	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	3.05
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.78	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	1.11
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.72	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	1.56
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.17	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.42	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH												
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	30.2	195	< 0.16	14.6	26.7	< 0.16	25.4	91.8
Heavy Metals / Metalloids												
Boron (dissolved)	µg/l	10	ISO 17025	n/t								
Calcium (dissolved)	mg/l	0.012	ISO 17025	750	190	440	200	180	410	440	250	390
Chromium (hexavalent)	µg/l	5	ISO 17025	n/t								
Copper (dissolved)	µg/l	0.7	ISO 17025	n/t								
Iron (dissolved)	mg/l	0.004	ISO 17025	0.16	0.03	0.081	0.26	2.4	2.8	0.1	0.14	0.23
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	n/t								
Mn (II)	mg/l	0.02	NONE	0.33	0.3	0.29	1.47	1.87	1.45	1.8	2.46	1.24
Mn (IV)	mg/l	0.02	NONE	4.56	1.14	1.39	0.36	0.11	0.62	1.48	0.26	1.31
Phosphorus (dissolved)	µg/l	20	ISO 17025	n/t								
Potassium (dissolved)	mg/l	0.025	ISO 17025	n/t								
Sodium (dissolved)	mg/l	0.01	ISO 17025	n/t								
Antimony (dissolved)	µg/l	0.4	ISO 17025	n/t								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.63	1.68	2.03	0.4	2.01	4.35	0.64	2.91	5.27
Barium (dissolved)	µg/l	0.06	ISO 17025	n/t								
Beryllium (dissolved)	µg/l	0.1	ISO 17025	n/t								
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.7	0.04	< 0.02	0.29	< 0.02	< 0.02	0.78	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.3	< 0.2	0.3	< 0.2
Cobalt (dissolved)	µg/l	0.2	ISO 17025	n/t								
Copper (dissolved)	µg/l	0.5	ISO 17025	5	3.7	3.6	4.7	1.9	0.6	5	1.9	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	0.2	< 0.2	< 0.2	< 0.2	0.4	< 0.2	0.3
Manganese (dissolved)	µg/l	0.05	ISO 17025	n/t								
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	n/t								
Nickel (dissolved)	µg/l	0.5	ISO 17025	18	7.3	15	7.4	2.8	3.7	6.9	1.9	3.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	18	1.3	2.3	6.1	1.4	2.6	10	1.6	2.9
Tin (dissolved)	µg/l	0.2	ISO 17025	n/t								
Vanadium (dissolved)	µg/l	0.2	ISO 17025	n/t								
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.5	1.9	14	4.7	2.1	7.8	8.2	2.7	5.9
Monoaromatics & Oxygenates												
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.3	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.7	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	7.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	7.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	<								

				Round 15	Round 15	Round 15	Round 16	Round 16	Round 16	Round 17	Round 17	Round 17
Lab Sample Number				2226446	2226447	2226448	2294582	2294583	2294584	2335358	2335359	2335360
Sample Reference				BH101	BH102	BH103	BH101	BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied								
Depth (m)				None Supplied	None Supplied	None Supplied	6.50-6.50	6.50-6.50	5.00-5.00	None Supplied	None Supplied	None Supplied
Date Sampled				31/03/2022	31/03/2022	31/03/2022	26/05/2022	26/05/2022	26/05/2022	29/06/2022	29/06/2022	29/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	1540	1510	1440	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									
SVOCS												
Aniline	µg/l	0.05	NONE	n/t								
Phenol	µg/l	0.05	NONE	n/t								
2-Chlorophenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	n/t								
1,3-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,2-Dichlorobenzene	µg/l	0.05	NONE	n/t								
1,4-Dichlorobenzene	µg/l	0.05	NONE	n/t								
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	n/t								
2-Methylphenol	µg/l	0.05	NONE	n/t								
Hexachloroethane	µg/l	0.05	NONE	n/t								
Nitrobenzene	µg/l	0.05	NONE	n/t								
4-Methylphenol	µg/l	0.05	NONE	n/t								
Isophorone	µg/l	0.05	NONE	n/t								
2-Nitrophenol	µg/l	0.05	NONE	n/t								
2,4-Dimethylphenol	µg/l	0.05	NONE	n/t								
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	n/t								
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	n/t								
Naphthalene	µg/l	0.01	ISO 17025	n/t								
2,4-Dichlorophenol	µg/l	0.05	NONE	n/t								
4-Chloroaniline	µg/l	0.05	NONE	n/t								
Hexachlorobutadiene	µg/l	0.05	NONE	n/t								
4-Chloro-3-methylphenol	µg/l	0.05	NONE	n/t								
2,4,6-Trichlorophenol	µg/l	0.05	NONE	n/t								
2,4,5-Trichlorophenol	µg/l	0.05	NONE	n/t								
2-Methylnaphthalene	µg/l	0.05	NONE	n/t								
2-Chloronaphthalene	µg/l	0.05	NONE	n/t								
Dimethylphthalate	µg/l	0.05	NONE	n/t								
2,6-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Acenaphthylene	µg/l	0.01	ISO 17025	n/t								
Acenaphthene	µg/l	0.01	ISO 17025	n/t								
2,4-Dinitrotoluene	µg/l	0.05	NONE	n/t								
Dibenzofuran	µg/l	0.05	NONE	n/t								
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Diethyl phthalate	µg/l	0.05	NONE	n/t								
4-Nitroaniline	µg/l	0.05	NONE	n/t								
Fluorene	µg/l	0.01	ISO 17025	n/t								
Azobenzene	µg/l	0.05	NONE	n/t								
Bromophenyl phenyl ether	µg/l	0.05	NONE	n/t								
Hexachlorobenzene	µg/l	0.05	NONE	n/t								
Phenanthrene	µg/l	0.01	ISO 17025	n/t								
Anthracene	µg/l	0.01	ISO 17025	n/t								
Carbazole	µg/l	0.05	NONE	n/t								
Dibutyl phthalate	µg/l	0.05	NONE	n/t								
Antraquinone	µg/l	0.05	NONE	n/t								
Fluoranthene	µg/l	0.01	ISO 17025	n/t								
Pyrene	µg/l	0.01	ISO 17025	n/t								
Butyl benzyl phthalate	µg/l	0.05	NONE	n/t								
Benzo(a)anthracene	µg/l	0.01	ISO 17025	n/t								
Chrysene	µg/l	0.01	ISO 17025	n/t								
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	n/t								
Benzo(a)pyrene	µg/l	0.01	ISO 17025	n/t								
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	n/t								
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	n/t								
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	n/t								
3&4-Methylphenol	µg/l	0.1	NONE	n/t								
Gases												
Methane	mg/L	0.1	NONE	< 0.1*	1*	2.2*	< 0.1	1.7	7.4	< 0.1	3.9	7.5

Lab Sample Number				Round 18	Round 18	Round 19	Round 19	Round 19
Sample Reference				2368345	2368344	2398327	2398328	2398329
Sample Number				BH102	BH103	BH101	BH102	BH103
Depth (m)				None Supplied				
Date Sampled				5.00-7.00	4.00-6.50	None Supplied	None Supplied	None Supplied
Time Taken				25/07/2022	25/07/2022	17/08/2022	17/08/2022	17/08/2022
Analytical Parameter (Water Analysis)	Units	Limit of detection	Acceleration Status	900	800	None Supplied	None Supplied	None Supplied
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.2	7.3	7.9	7	7.3
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	n/t	n/t	n/t	n/t	n/t
Total Cyanide	µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t
Complex Cyanide	µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t
Free Cyanide	µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t
Sulphate as SO4	µg/l	45	ISO 17025	60.4	311	239	24.8	290
Total Sulphur	µg/l	15	NONE	20000	100000	80000	8300	97000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025					
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4300	9000	56	4400	8900
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025					
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	31.4	44.3	6.21	31.8	43.1
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Nitrate as N	mg/l	0.01	ISO 17025	0.4	0.57	1.49	0.23	0.36
Nitrate as NO3	mg/l	0.05	ISO 17025	1.78	2.54	6.59	1.01	1.57
Nitrite as N	µg/l	1	ISO 17025	6.9	< 1.0	10	< 1.0	12
Nitrite as NO2	µg/l	5	ISO 17025	23	< 5.0	33	< 5.0	38
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	110	650	49	110	190
BOD (Biochemical Oxygen Demand) (5 days)	mg/l	1	ISO 17025	5.6	48	2	19	9.3
Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	610	< 0.5	< 0.5	1400	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	610	< 3.5	< 3.5	1400	< 3.5
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	4.06	< 0.01	11.6	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	1.77	< 0.01	< 0.01	0.42
Acenaphthene	µg/l	0.01	ISO 17025	8.81	12.2	< 0.01	20.7	11
Fluorene	µg/l	0.01	ISO 17025	2.98	10.7	< 0.01	8.98	3.28
Phenanthrene	µg/l	0.01	ISO 17025	0.53	27.9	< 0.01	6.12	2.5
Anthracene	µg/l	0.01	ISO 17025	< 0.01	51.6	< 0.01	0.81	1.06
Fluoranthene	µg/l	0.01	ISO 17025	1.26	55.5	< 0.01	1.28	3.25
Pyrene	µg/l	0.01	ISO 17025	0.81	44.5	< 0.01	0.7	2.27
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	12.6	< 0.01	< 0.01	0.36
Chrysene	µg/l	0.01	ISO 17025	< 0.01	11.8	< 0.01	< 0.01	0.24
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	10.5	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	3.51	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	6.54	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	2.2	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.63	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	2.42	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	14.4	258	< 0.16	50.2	24.4
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t
Calcium (dissolved)	mg/l	0.012	ISO 17025	210	400	180	240	400
Chromium (hexavalent)	µg/l	5	ISO 17025	n/t	n/t	n/t	n/t	n/t
Copper (dissolved)	µg/l	0.7	ISO 17025	n/t	n/t	n/t	n/t	n/t
Iron (dissolved)	mg/l	0.004	ISO 17025	0.44	0.15	0.056	0.37	0.067
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	0.2	< 0.20
Fe3+	mg/l	0.2	NONE	0.41	< 0.20	< 0.20	< 0.20	< 0.20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	n/t	n/t	n/t	n/t	n/t
Mn (II)	mg/l	0.02	NONE	1.65	0.9	0.62	1.25	1.12
Mn (IV)	mg/l	0.02	NONE	0.68	1.07	0.59	1.32	1.19
Phosphorus (dissolved)	µg/l	20	ISO 17025	n/t	n/t	n/t	n/t	n/t
Potassium (dissolved)	mg/l	0.025	ISO 17025	n/t	n/t	n/t	n/t	n/t
Sodium (dissolved)	mg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Antimony (dissolved)	µg/l	0.4	ISO 17025	n/t	n/t	n/t	n/t	n/t
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.71	8.36	1.92	5	4.9
Barium (dissolved)	µg/l	0.06	ISO 17025	n/t	n/t	n/t	n/t	n/t
Beryllium (dissolved)	µg/l	0.1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.39	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	4.7	0.2	0.4
Cobalt (dissolved)	µg/l	0.2	ISO 17025	n/t	n/t	n/t	n/t	n/t
Copper (dissolved)	µg/l	0.5	ISO 17025	4.6	0.9	9.1	3	2.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.5	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	n/t	n/t	n/t	n/t	n/t
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	n/t	n/t	n/t	n/t	n/t
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.2	11	7.6	5.7	10
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.3	2.7	3.2	1.3	2.4
Tin (dissolved)	µg/l	0.2	ISO 17025	n/t	n/t	n/t	n/t	n/t
Vanadium (dissolved)	µg/l	0.2	ISO 17025	n/t	n/t	n/t	n/t	n/t
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.9	5	3.8	2.4	3.1
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	26.1	21.7
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	4.7	3.4
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	5.7	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	4.7	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	4.6	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

				Round 18	Round 18	Round 19	Round 19	Round 19
Lab Sample Number				2368345	2368344	2398327	2398328	2398329
Sample Reference				BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied				
Depth (m)				5.00-7.00	4.00-6.50	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2022	25/07/2022	17/08/2022	17/08/2022	17/08/2022
Time Taken				900	800	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
Petroleum Hydrocarbons								
Mineral Oil (C10 - C40)	µg/l	10	NONE	n/t	n/t	n/t	n/t	n/t
Diesel Range Organics (C10 - C25)	µg/l	10	NONE	n/t	n/t	n/t	n/t	n/t
TPH1 (C10 - C40)	µg/l	10	NONE	n/t	n/t	n/t	n/t	n/t
TPH2 (C6 - C10)	µg/l	10	ISO 17025	n/t	n/t	n/t	n/t	n/t
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C25	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	26	22
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	4.7	3.4
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	15	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	670	70	< 10	140	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	3500	490	< 10	450	140
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	1200	610	< 10	< 10	77
TPH-CWG - Aromatic >C21 - C25	µg/l	10	NONE	520	1700	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	5900	2900	< 10	640	250
VOCS								
Chloromethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Chloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Bromomethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Vinyl Chloride	µg/l	1	NONE	n/t	n/t	n/t	n/t	n/t
Trichlorofluoromethane	µg/l	1	NONE	n/t	n/t	n/t	n/t	n/t
1,1-Dichloroethene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1-Dichloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
2,2-Dichloropropane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Trichloromethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1,1-Trichloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2-Dichloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1-Dichloropropene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Benzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Tetrachloromethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2-Dichloropropane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Trichloroethene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Dibromomethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Bromodichloromethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Toluene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1,2-Trichloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,3-Dichloropropane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Dibromochloromethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Tetrachloroethene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2-Dibromoethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Chlorobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
p & m-Xylene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Styrene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Tribromomethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
o-Xylene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Isopropylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Bromobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
n-Propylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
2-Chlorotoluene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
4-Chlorotoluene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
tert-Butylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
sec-Butylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,3-Dichlorobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
p-Isopropyltoluene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2-Dichlorobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,4-Dichlorobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Butylbenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
Hexachlorobutadiene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	n/t	n/t	n/t	n/t	n/t

				Round 18	Round 18	Round 19	Round 19	Round 19
Lab Sample Number				2368345	2368344	2398327	2398328	2398329
Sample Reference				BH102	BH103	BH101	BH102	BH103
Sample Number				None Supplied				
Depth (m)				5.00-7.00	4.00-6.50	None Supplied	None Supplied	None Supplied
Date Sampled				25/07/2022	25/07/2022	17/08/2022	17/08/2022	17/08/2022
Time Taken				900	800	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Phenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2-Chlorophenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
1,3-Dichlorobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
1,2-Dichlorobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
1,4-Dichlorobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2-Methylphenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Hexachloroethane	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Nitrobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
4-Methylphenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Isophorone	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2-Nitrophenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2,4-Dimethylphenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Naphthalene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
2,4-Dichlorophenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
4-Chloroaniline	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Hexachlorobutadiene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
4-Chloro-3-methylphenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2,4,6-Trichlorophenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2,4,5-Trichlorophenol	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2-Methylnaphthalene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2-Chloronaphthalene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Dimethylphthalate	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
2,6-Dinitrotoluene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Acenaphthene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
2,4-Dinitrotoluene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Dibenzofuran	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Diethyl phthalate	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
4-Nitroaniline	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Fluorene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Azobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Bromophenyl phenyl ether	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Hexachlorobenzene	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Phenanthrene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Anthracene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Carbazole	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Dibutyl phthalate	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Antraquinone	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Fluoranthene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Pyrene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Butyl benzyl phthalate	µg/l	0.05	NONE	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Chrysene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Benzo(a)pyrene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	n/t	n/t	n/t	n/t	n/t
3&4-Methylphenol	µg/l	0.1	NONE	n/t	n/t	n/t	n/t	n/t
Gases								
Methane	mg/L	0.1	NONE	4.8	7	< 0.1	6.6	4.9



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-91615

Project / Site name:	Hayes	Samples received on:	06/08/2021
Your job number:	211423	Samples instructed on/ Analysis started on:	06/08/2021
Your order number:	211423 CB	Analysis completed by:	18/08/2021
Report Issue Number:	1	Report issued on:	18/08/2021
Samples Analysed:	3 water samples		

Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
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: 21-91615

Project / Site name: Hayes

Your Order No: 211423_CB

Lab Sample Number	1965314			1965315			1965316		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	None Supplied			None Supplied			None Supplied		
Date Sampled	05/08/2021			05/08/2021			05/08/2021		
Time Taken	None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

Parameter	Units	N/A	ISO 17025	1965314	1965315	1965316
pH	pH Units	N/A	ISO 17025	6.7	7.1	7.4
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	7500	1900	2700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	381000	9230	26600
Sulphide	µg/l	5	NONE	65	120	85
Chloride	mg/l	0.15	ISO 17025	2300	72	340
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4200	7200	14000
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4400	7600	15000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	9.97	67.4	48.7
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	10.5	78.5	54.3
Nitrate as N	mg/l	0.01	ISO 17025	0.13	0.47	0.45
Nitrate as NO3	mg/l	0.05	ISO 17025	0.57	2.08	1.97
Nitrite as N	µg/l	1	ISO 17025	4.2	25	14
Nitrite as NO2	µg/l	5	ISO 17025	14	83	47
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	4600	I/S	5000
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	120	62	47

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	2700	39
----------------------------	------	----	-----------	------	------	----

Speciated PAHs

Parameter	Units	N/A	ISO 17025	1965314	1965315	1965316
Naphthalene	µg/l	0.01	ISO 17025	0.96	787**	I/S
Acenaphthylene	µg/l	0.01	ISO 17025	0.24	4.29	I/S
Acenaphthene	µg/l	0.01	ISO 17025	0.28	140	I/S
Fluorene	µg/l	0.01	ISO 17025	0.25	70.0	I/S
Phenanthrene	µg/l	0.01	ISO 17025	1.10	90.7	I/S
Anthracene	µg/l	0.01	ISO 17025	0.59	9.97	I/S
Fluoranthene	µg/l	0.01	ISO 17025	2.23	14.3	I/S
Pyrene	µg/l	0.01	ISO 17025	2.45	8.39	I/S
Benzo(a)anthracene	µg/l	0.01	ISO 17025	1.79	< 0.01	I/S
Chrysene	µg/l	0.01	ISO 17025	1.71	< 0.01	I/S
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	1.99	< 0.01	I/S
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.74	< 0.01	I/S
Benzo(a)pyrene	µg/l	0.01	ISO 17025	1.61	< 0.01	I/S
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.98	< 0.01	I/S
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	I/S
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	1.08	< 0.01	I/S

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	18.0	1120	< 0.16
-------------------	------	------	-----------	------	------	--------



Analytical Report Number: 21-91615
Project / Site name: Hayes

Your Order No: 211423_CB

Lab Sample Number	1965314			1965315			1965316		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	None Supplied			None Supplied			None Supplied		
Date Sampled	05/08/2021			05/08/2021			05/08/2021		
Time Taken	None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	410	270	830
Calcium (dissolved)	mg/l	0.012	ISO 17025	1100	260	260
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7*	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	270	0.63	0.098
Fe2+	mg/l	0.2	NONE	5.50	0.24	< 0.20
Fe3+	mg/l	0.2	NONE	265	0.39	< 0.20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	130	130	110
Mn (II)	mg/l	0.02	NONE	5.10	0.24	0.35
Mn (IV)	mg/l	0.02	NONE	13.1	2.52	0.17
Phosphorus (dissolved)	µg/l	20	ISO 17025	3130	32.7	38.3
Potassium (dissolved)	mg/l	0.025	ISO 17025	33	4.8	29
Sodium (dissolved)	mg/l	0.01	ISO 17025	1400	58	180

Antimony (dissolved)	µg/l	0.4	ISO 17025	0.6	2.0	6.6
Arsenic (dissolved)	µg/l	0.15	ISO 17025	10.3	6.54	14.1
Barium (dissolved)	µg/l	0.06	ISO 17025	350	240	330
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.9	7.2	2.3
Cobalt (dissolved)	µg/l	0.2	ISO 17025	9.8	3.1	2.7
Copper (dissolved)	µg/l	0.5	ISO 17025	U/S*	7.5	7.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	1.8
Manganese (dissolved)	µg/l	0.05	ISO 17025	7500	2900	380
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	2.3	5.4	16
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.3	6.4	11
Selenium (dissolved)	µg/l	0.6	ISO 17025	5.3	2.0	3.1
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.9	1.4	6.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.2	6.2	6.3

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	65.4	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	35.8	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	44.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	48.9	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	32.6	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0



Analytical Report Number: 21-91615
Project / Site name: Hayes

Your Order No: 211423_CB

Lab Sample Number	1965314			1965315			1965316		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	None Supplied			None Supplied			None Supplied		
Date Sampled	05/08/2021			05/08/2021			05/08/2021		
Time Taken	None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

Petroleum Hydrocarbons

Mineral Oil (C10 - C40)	µg/l	10	NONE	< 10.0	< 10.0	I/S
Diesel Range Organics (C10 - C25)	µg/l	10	NONE	19	1600	I/S

TPH1 (C10 - C40)	µg/l	10	NONE	19	1600	I/S
------------------	------	----	------	----	------	-----

TPH2 (C6 - C10)	µg/l	10	ISO 17025	< 10	270	< 10
-----------------	------	----	-----------	------	-----	------

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	I/S
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	I/S
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	I/S
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	I/S
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	65	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	36	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	170	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	790	I/S
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	720	I/S
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	120	I/S
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	10	< 10	I/S
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	10	1900	< 10

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	65.4	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	35.8	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0



Analytical Report Number: 21-91615
Project / Site name: Hayes

Your Order No: 211423_CB

Lab Sample Number				1965314	1965315	1965316
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				05/08/2021	05/08/2021	05/08/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	44.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	48.9	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	32.6	< 1.0
1,1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	3.9	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	13.9	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	26.7	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	9.5	I/S
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2-Methylphenol	µg/l	0.05	NONE	< 0.05	240	I/S
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	1600**	I/S
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Naphthalene	µg/l	0.01	ISO 17025	0.96	790**	I/S
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S



Analytical Report Number: 21-91615
Project / Site name: Hayes

Your Order No: 211423_CB

Lab Sample Number				1965314	1965315	1965316
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				05/08/2021	05/08/2021	05/08/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	54	I/S
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Acenaphthylene	µg/l	0.01	ISO 17025	0.24	4.3	I/S
Acenaphthene	µg/l	0.01	ISO 17025	0.28	140	I/S
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Dibenzofuran	µg/l	0.05	NONE	< 0.05	69	I/S
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Fluorene	µg/l	0.01	ISO 17025	0.25	70	I/S
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Hexachlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Phenanthrene	µg/l	0.01	ISO 17025	1.1	91	I/S
Anthracene	µg/l	0.01	ISO 17025	0.59	10	I/S
Carbazole	µg/l	0.05	NONE	< 0.05	49	I/S
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Fluoranthene	µg/l	0.01	ISO 17025	2.2	14	I/S
Pyrene	µg/l	0.01	ISO 17025	2.5	8.4	I/S
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	I/S
Benzo(a)anthracene	µg/l	0.01	ISO 17025	1.8	< 0.01	I/S
Chrysene	µg/l	0.01	ISO 17025	1.7	< 0.01	I/S
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	2.0	< 0.01	I/S
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.74	< 0.01	I/S
Benzo(a)pyrene	µg/l	0.01	ISO 17025	1.6	< 0.01	I/S
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.98	< 0.01	I/S
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	I/S
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	1.1	< 0.01	I/S
3&4-Methylphenol	µg/l	0.1	NONE	< 0.10	< 0.10	I/S

Gases

Methane	mg/L	0.1	NONE	< 0.1	2.8	2.1
---------	------	-----	------	-------	-----	-----

U/S = Unsuitable Sample I/S = Insufficient Sample

* U/S for Cu on ICP-MS due to matrix interference, the results are reported from ICP-OES

**Over range data, sample was diluted and results are estimated from an extrapolated calibration. Results should be interpreted with care.



Analytical Report Number : 21-91615
Project / Site name: Hayes

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by calculation. 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
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Mineral Oil (Waters) C10 - C40	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-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
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE



Analytical Report Number : 21-91615
Project / Site name: Hayes

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L102B-PL	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW, GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
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
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
DRO (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE



Analytical Report Number : 21-91615
Project / Site name: Hayes

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Sample Deviation Report



Analytical Report Number : 21-91615

Project / Site name: Hayes

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1965314	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	1965314	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	1965314	c	Ammonium as NH4 in water	L082-PL	c
BH101	None Supplied	W	1965314	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1965314	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101	None Supplied	W	1965314	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	1965314	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	1965314	c	pH at 20oC in water	L005-PL	c
BH101	None Supplied	W	1965314	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	1965315	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	1965315	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	1965315	c	Ammonium as NH4 in water	L082-PL	c
BH102	None Supplied	W	1965315	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	1965315	c	Electrical conductivity at 20oC of water	L031-PL	c
BH102	None Supplied	W	1965315	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	1965315	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	1965315	c	pH at 20oC in water	L005-PL	c
BH102	None Supplied	W	1965315	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	1965316	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	1965316	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	1965316	c	Ammonium as NH4 in water	L082-PL	c
BH103	None Supplied	W	1965316	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	1965316	c	Electrical conductivity at 20oC of water	L031-PL	c
BH103	None Supplied	W	1965316	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	1965316	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	1965316	c	pH at 20oC in water	L005-PL	c
BH103	None Supplied	W	1965316	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
7 Swallow Place
London
W1B 2AG

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-94596

Project / Site name:	North Hyde Garens	Samples received on:	20/08/2021
Your job number:		Samples instructed on/ Analysis started on:	23/08/2021
Your order number:	211423 CB	Analysis completed by:	01/09/2021
Report Issue Number:	1	Report issued on:	01/09/2021
Samples Analysed:	3 water samples		

Signed:

Karolina Marek
PL Head of Reporting Team
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.



Environmental Science

Analytical Report Number: 21-94596
Project / Site name: North Hyde Garens

Your Order No: 211423 CB

Lab Sample Number				1982496	1982497	1982498
Sample Reference				BH102	BH101	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00
Date Sampled				19/08/2021	19/08/2021	19/08/2021
Time Taken				1000	1045	1130
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

	pH Units	N/A	ISO 17025	7.0	6.5	7.4
pH						
Sulphate as SO ₄	mg/l	0.045	ISO 17025	129	534	583
Total Sulphur	µg/l	15	NONE	43000	180000	190000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	4900	5000	5800
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	37.3	3.71	17.1
Nitrate as N	mg/l	0.01	ISO 17025	0.77	3.38	0.48
Nitrate as NO ₃	mg/l	0.05	ISO 17025	3.41	15.0	2.12
Nitrite as N	µg/l	1	ISO 17025	290	1100	< 1.0
Nitrite as NO ₂	µg/l	5	ISO 17025	940	3500	< 5.0
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	140	1100	6500
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	6.2	2.5	7.9

Carbonate as CaCO ₃ (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	< 3.5	< 3.5
----------------------	------	-----	------	-------	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.23
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.95
Acenaphthene	µg/l	0.01	ISO 17025	40.1	< 0.01	13.3
Fluorene	µg/l	0.01	ISO 17025	18.6	< 0.01	10.3
Phenanthrene	µg/l	0.01	ISO 17025	10.8	< 0.01	23.6
Anthracene	µg/l	0.01	ISO 17025	1.29	< 0.01	87.3
Fluoranthene	µg/l	0.01	ISO 17025	2.50	< 0.01	76.0
Pyrene	µg/l	0.01	ISO 17025	1.29	< 0.01	62.4
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	16.1
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	15.5
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	12.6
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.79
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	7.34
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.97
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	2.15

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	74.5	< 0.16	337
-------------------	------	------	-----------	------	--------	-----



Analytical Report Number: 21-94596
Project / Site name: North Hyde Garens

Your Order No: 211423 CB

Lab Sample Number	1982496	1982497	1982498
Sample Reference	BH102	BH101	BH103
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	6.00-6.00	6.00-6.00	5.00-5.00
Date Sampled	19/08/2021	19/08/2021	19/08/2021
Time Taken	1000	1045	1130
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status

Heavy Metals / Metalloids

Element	Unit	Limit of detection	ISO 17025	1982496	1982497	1982498
Calcium (dissolved)	mg/l	0.012	ISO 17025	210	1100	350
Copper (dissolved)	µg/l	0.7	ISO 17025	-	1.6*	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.45	0.11	0.014
Fe2+	mg/l	0.2	NONE	< 0.20	I/S	< 0.20
Fe3+	mg/l	0.2	NONE	0.35	I/S	< 0.20
Mn (II)	mg/l	0.02	NONE	1.80	15.8	0.75
Mn (IV)	mg/l	0.02	NONE	0.48	0.77	0.44

Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.29	44.8	16.6
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.76	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.8	3.1	4.8
Copper (dissolved)	µg/l	0.5	ISO 17025	4.6	U/S*	23
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.5
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.6	15	19
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.8	18	8.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.7	8.5	6.4

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	22.4	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	12.7	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	8.2	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	9.9	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	7.2	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	22	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	13	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	25	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	59	< 10	470
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	16	< 10	1100
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	470
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	140	< 10	2000

Gases

Methane	mg/L	0.1	NONE	3.6	< 0.1	< 0.1
---------	------	-----	------	-----	-------	-------

U/S = Unsuitable Sample I/S = Insufficient Sample

* U/S for Cu on ICP-MS due to matrix interference, the results are reported from ICP-OES

Analytical Report Number : 21-94596
Project / Site name: North Hyde Garens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-94596
Project / Site name: North Hyde Garens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Sample Deviation Report



Environmental Science

Analytical Report Number : 21-94596
Project / Site name: North Hyde Garens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1982497	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	1982497	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	1982497	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1982497	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	1982497	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	1982497	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	1982496	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	1982496	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	1982496	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	1982496	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	1982496	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	1982496	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	1982498	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	1982498	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	1982498	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	1982498	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	1982498	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	1982498	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-96723

Project / Site name:	North Hyde Gardens	Samples received on:	01/09/2021
Your job number:		Samples instructed on/ Analysis started on:	02/09/2021
Your order number:	211423 CB	Analysis completed by:	14/09/2021
Report Issue Number:	1	Report issued on:	14/09/2021
Samples Analysed:	3 water samples		

Signed: 

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
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: 21-96723
Project / Site name: North Hyde Gardens

Your Order No: 211423 CB

Lab Sample Number	1995324			1995325			1995326		
Sample Reference	BH102			BH101			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.00-6.00			6.00-6.00			5.00-5.00		
Date Sampled	31/08/2021			31/08/2021			31/08/2021		
Time Taken	1000			1045			1115		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

Parameter	Units	N/A	ISO 17025	1995324	1995325	1995326
pH	pH Units	N/A	ISO 17025	6.7	7.4	7.2
Sulphate as SO4	mg/l	0.045	ISO 17025	47.8	507	392
Total Sulphur	µg/l	15	NONE	16000	170000	130000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	6400	4900	9500
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	I/S	I/S	I/S
Nitrate as N	mg/l	0.01	ISO 17025	0.82	0.44	0.56
Nitrate as NO3	mg/l	0.05	ISO 17025	3.61	1.96	2.48
Nitrite as N	µg/l	1	ISO 17025	180	65	19
Nitrite as NO2	µg/l	5	ISO 17025	590	210	61
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	200	630	750
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	6.5	1.2	< 1.0

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Parameter	Units	N/A	ISO 17025	1995324	1995325	1995326
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	4600	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	4600	< 3.5	< 3.5
----------------------	------	-----	------	------	-------	-------

Speciated PAHs

Parameter	Units	N/A	ISO 17025	1995324	1995325	1995326
Naphthalene	µg/l	0.01	ISO 17025	50.1	< 0.01	3.49
Acenaphthylene	µg/l	0.01	ISO 17025	1.34	< 0.01	0.83
Acenaphthene	µg/l	0.01	ISO 17025	62.2	< 0.01	32.2
Fluorene	µg/l	0.01	ISO 17025	31.1	< 0.01	18.7
Phenanthrene	µg/l	0.01	ISO 17025	21.5	< 0.01	19.1
Anthracene	µg/l	0.01	ISO 17025	1.82	< 0.01	27.7
Fluoranthene	µg/l	0.01	ISO 17025	2.86	< 0.01	25.7
Pyrene	µg/l	0.01	ISO 17025	1.34	< 0.01	19.3
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.52
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.42
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.40
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.78
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.92
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	172	< 0.16	155
-------------------	------	------	-----------	-----	--------	-----



Analytical Report Number: 21-96723
Project / Site name: North Hyde Gardens

Your Order No: 211423 CB

Lab Sample Number	1995324			1995325			1995326		
Sample Reference	BH102			BH101			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.00-6.00			6.00-6.00			5.00-5.00		
Date Sampled	31/08/2021			31/08/2021			31/08/2021		
Time Taken	1000			1045			1115		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

Heavy Metals / Metalloids

Parameter	Units	Limit of detection	Accreditation Status	1995324	1995325	1995326
Calcium (dissolved)	mg/l	0.012	ISO 17025	230	910	300
Iron (dissolved)	mg/l	0.004	ISO 17025	0.71	0.098	0.12
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	0.64	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	2.48	14.1	1.08
Mn (IV)	mg/l	0.02	NONE	0.33	0.28	0.07

Parameter	Units	Limit of detection	Accreditation Status	1995324	1995325	1995326
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.90	52.1	9.44
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	1.1	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.8	4.2	6.3
Copper (dissolved)	µg/l	0.5	ISO 17025	5.0	86	10
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	7.1
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.9	28	46
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.3	22	3.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	9.4	7.6

Monoaromatics & Oxygenates

Parameter	Units	Limit of detection	Accreditation Status	1995324	1995325	1995326
Benzene	µg/l	1	ISO 17025	56.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	28.1	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	21.8	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	26.1	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	18.9	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

Parameter	Units	Limit of detection	Accreditation Status	1995324	1995325	1995326
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

Parameter	Units	Limit of detection	Accreditation Status	1995324	1995325	1995326
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	56	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	28	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	77	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	130	< 10	20
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	3900	< 10	180
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	1800	< 10	170
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	5900	< 10	380

Gases

Parameter	Units	Limit of detection	Accreditation Status	1995324	1995325	1995326
Methane	mg/L	0.1	NONE	14	< 0.1	6.3

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-96723
Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-96723
 Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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 30°C.

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.

Sample Deviation Report



Analytical Report Number : 21-96723
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1995325	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	1995324	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	1995326	c	Biological oxygen demand (total) of water	L086-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-10254

Project / Site name:	North Hyde Gardens	Samples received on:	15/09/2021
Your job number:		Samples instructed on/ Analysis started on:	15/09/2021
Your order number:	211424 CB	Analysis completed by:	24/09/2021
Report Issue Number:	1	Report issued on:	24/09/2021
Samples Analysed:	3 water samples		

Signed: _____

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
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: 21-10254
Project / Site name: North Hyde Gardens

Your Order No: 211424 CB

Lab Sample Number	2012775			2012776			2012777		
Sample Reference	BH102			BH101			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.00-6.00			6.00-6.00			5.00-5.00		
Date Sampled	14/09/2021			14/09/2021			14/09/2021		
Time Taken	1000			1030			1100		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	2012775	2012776	2012777
pH	pH Units	N/A	ISO 17025	6.9	6.6	7.2
Sulphate as SO4	mg/l	0.045	ISO 17025	24.5	353	364
Total Sulphur	µg/l	15	NONE	8200	120000	120000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	6300	4700	7900
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	57.3	5.10	41.1
Nitrate as N	mg/l	0.01	ISO 17025	0.55	0.58	0.43
Nitrate as NO3	mg/l	0.05	ISO 17025	2.43	2.58	1.91
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	230	350	380
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	15	1.2	5.4

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Parameter	Units	Limit of detection	Accreditation Status	2012775	2012776	2012777
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	6600	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	6600	< 3.5	< 3.5
----------------------	------	-----	------	------	-------	-------

Speciated PAHs

Parameter	Units	Limit of detection	Accreditation Status	2012775	2012776	2012777
Naphthalene	µg/l	0.01	ISO 17025	1.01	< 0.01	2.43
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.87
Acenaphthene	µg/l	0.01	ISO 17025	47.4	< 0.01	8.43
Fluorene	µg/l	0.01	ISO 17025	25.7	< 0.01	8.26
Phenanthrene	µg/l	0.01	ISO 17025	11.3	< 0.01	16.1
Anthracene	µg/l	0.01	ISO 17025	2.27	< 0.01	34.8
Fluoranthene	µg/l	0.01	ISO 17025	5.05	< 0.01	25.4
Pyrene	µg/l	0.01	ISO 17025	3.01	< 0.01	21.8
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.56	< 0.01	5.41
Chrysene	µg/l	0.01	ISO 17025	0.44	< 0.01	6.08
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.84
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.70
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.40
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.81
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.21
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.85

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	96.8	< 0.16	139
-------------------	------	------	-----------	------	--------	-----



Analytical Report Number: 21-10254
Project / Site name: North Hyde Gardens

Your Order No: 211424 CB

Lab Sample Number	2012775		2012776		2012777	
Sample Reference	BH102		BH101		BH103	
Sample Number	None Supplied		None Supplied		None Supplied	
Depth (m)	6.00-6.00		6.00-6.00		5.00-5.00	
Date Sampled	14/09/2021		14/09/2021		14/09/2021	
Time Taken	1000		1030		1100	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	240	880	340
Copper (dissolved)	µg/l	0.7	ISO 17025	-	< 0.7	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.13	0.11	0.41
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	0.30
Mn (II)	mg/l	0.02	NONE	0.77	3.35	0.78
Mn (IV)	mg/l	0.02	NONE	2.59	7.48	1.58

Arsenic (dissolved)	µg/l	0.15	ISO 17025	14.0	34.3	22.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.22	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	7.9	4.2	6.4
Copper (dissolved)	µg/l	0.5	ISO 17025	1.3	-	3.4
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	4.9	12	12
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.6	11	3.5
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.6	4.8	2.0

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	48.3	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	24.4	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	19.9	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	21.7	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	14.7	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	48	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	24	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	63	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	240	< 10	110
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	870	< 10	210
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	51
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	1200	< 10	360

Gases

Methane	mg/L	0.1	NONE	0.8	< 0.1	< 0.1
---------	------	-----	------	-----	-------	-------

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-10254
Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 21-10254
 Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Sample Deviation Report



Analytical Report Number : 21-10254
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2012776	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2012775	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2012777	c	Biological oxygen demand (total) of water	L086-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-13709

Project / Site name:	North Hyde Gardens	Samples received on:	01/10/2021
Your job number:		Samples instructed on/ Analysis started on:	01/10/2021
Your order number:		Analysis completed by:	13/10/2021
Report Issue Number:	1	Report issued on:	13/10/2021
Samples Analysed:	3 water samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
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: 21-13709
Project / Site name: North Hyde Gardens

Lab Sample Number	2031962			2031963			2031964		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	4.50-4.5			6.50-6.50			5.00-5.00		
Date Sampled	30/09/2021			30/09/2021			30/09/2021		
Time Taken	1123			1056			0957		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

Parameter	Units	N/A	ISO 17025	2031962	2031963	2031964
pH	pH Units	N/A	ISO 17025	6.6	6.9	7.0
Sulphate as SO4	mg/l	0.045	ISO 17025	408	224	500
Total Sulphur	µg/l	15	NONE	140000	75000	170000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	3800	3100	8300
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	6.83	37.2	48.3
Nitrate as N	mg/l	0.01	ISO 17025	0.39	4.65	0.18
Nitrate as NO3	mg/l	0.05	ISO 17025	1.71	20.6	0.78
Nitrite as N	µg/l	1	ISO 17025	180	56	16
Nitrite as NO2	µg/l	5	ISO 17025	610	190	54
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	390	110	320
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	13	2.9

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Parameter	Units	N/A	ISO 17025	2031962	2031963	2031964
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	1700	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	1700	< 3.5
----------------------	------	-----	------	-------	------	-------

Speciated PAHs

Parameter	Units	N/A	ISO 17025	2031962	2031963	2031964
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	16.7	4.44
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.76
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	46.5	19.2
Fluorene	µg/l	0.01	ISO 17025	< 0.01	25.7	20.4
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	19.0	60.6
Anthracene	µg/l	0.01	ISO 17025	< 0.01	2.81	127
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	6.04	129
Pyrene	µg/l	0.01	ISO 17025	< 0.01	3.74	106
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.62	27.4
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.59	27.9
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.22	21.9
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.13	7.87
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	12.8
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.65
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.19
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.12

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	122	576
-------------------	------	------	-----------	--------	-----	-----

Heavy Metals / Metalloids



Analytical Report Number: 21-13709
Project / Site name: North Hyde Gardens

Lab Sample Number				2031962	2031963	2031964
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				4.50-4.5	6.50-6.50	5.00-5.00
Date Sampled				30/09/2021	30/09/2021	30/09/2021
Time Taken				1123	1056	0957
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Calcium (dissolved)	mg/l	0.012	ISO 17025	550	170	390
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	2.1	1.3	2.1
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	2.11	1.29	2.01
Mn (II)	mg/l	0.02	NONE	7.92	1.40	1.85
Mn (IV)	mg/l	0.02	NONE	0.42	0.45	0.86

Arsenic (dissolved)	µg/l	0.15	ISO 17025	16.3	2.55	17.3
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.75	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.2	2.9	6.1
Copper (dissolved)	µg/l	0.5	ISO 17025	-	7.8	5.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	1.1
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.3	4.3	7.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	32	8.5	5.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.4	4.4	2.8

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	14.5	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	10.1	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	8.9	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	10.5	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	6.2	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	15	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	10	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	28	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	1300	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	3700	420
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	1500	42
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	110
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	6500	570

Gases

Methane	mg/L	0.1	NONE	< 0.1*	2.3*	6.8*
---------	------	-----	------	--------	------	------

U/S = Unsuitable Sample I/S = Insufficient Sample

*Sample was delivered to Air Laboratory in deviating container



Analytical Report Number : 21-13709
Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-13709
 Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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 30°C.

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.

Sample Deviation Report



Analytical Report Number : 21-13709
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2031962	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2031962	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2031962	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2031962	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2031962	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2031962	c	pH at 20oC in water	L005-PL	c
BH101	None Supplied	W	2031962	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2031963	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2031963	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2031963	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2031963	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2031963	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2031963	c	pH at 20oC in water	L005-PL	c
BH102	None Supplied	W	2031963	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2031964	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2031964	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2031964	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2031964	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2031964	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2031964	c	pH at 20oC in water	L005-PL	c
BH103	None Supplied	W	2031964	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-16648

Project / Site name:	North Hyde Gardens	Samples received on:	14/10/2021
Your job number:		Samples instructed on/ Analysis started on:	15/10/2021
Your order number:		Analysis completed by:	27/10/2021
Report Issue Number:	1	Report issued on:	27/10/2021
Samples Analysed:	3 water samples		

Signed: _____

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
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: 21-16648
Project / Site name: North Hyde Gardens

Lab Sample Number	2048647			2048648			2048649		
Sample Reference	BH102			BH101			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	None Supplied			None Supplied			None Supplied		
Date Sampled	13/10/2021			13/10/2021			13/10/2021		
Time Taken	0900			0930			1015		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

pH	pH Units	N/A	ISO 17025	7.3	6.7	7.4
Sulphate as SO4	mg/l	0.045	ISO 17025	188	580	531
Total Sulphur	µg/l	15	NONE	63000	190000	180000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	3800	3700	5000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	35.5	4.73	32.1
Nitrate as N	mg/l	0.01	ISO 17025	1.09	3.07	0.58
Nitrate as NO3	mg/l	0.05	ISO 17025	4.81	13.6	2.59
Nitrite as N	µg/l	1	ISO 17025	16	410	2.7
Nitrite as NO2	µg/l	5	ISO 17025	51	1400	8.8
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	120	780	280
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	12	1.3	6.1

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	2500	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	2500	< 3.5	< 3.5
----------------------	------	-----	------	------	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	4.50	< 0.01	0.76
Acenaphthylene	µg/l	0.01	ISO 17025	0.64	< 0.01	0.49
Acenaphthene	µg/l	0.01	ISO 17025	22.3	< 0.01	1.56
Fluorene	µg/l	0.01	ISO 17025	11.0	< 0.01	1.26
Phenanthrene	µg/l	0.01	ISO 17025	8.05	< 0.01	3.16
Anthracene	µg/l	0.01	ISO 17025	1.73	< 0.01	9.02
Fluoranthene	µg/l	0.01	ISO 17025	4.38	< 0.01	12.6
Pyrene	µg/l	0.01	ISO 17025	2.68	< 0.01	10.8
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.70	< 0.01	3.35
Chrysene	µg/l	0.01	ISO 17025	0.54	< 0.01	3.63
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.24	< 0.01	3.05
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.12	< 0.01	0.94
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.90
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.78
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.22
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.77

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	56.9	< 0.16	54.4
-------------------	------	------	-----------	------	--------	------



Analytical Report Number: 21-16648
Project / Site name: North Hyde Gardens

Lab Sample Number				2048647	2048648	2048649
Sample Reference				BH102	BH101	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/10/2021	13/10/2021	13/10/2021
Time Taken				0900	0930	1015
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Parameter	Units	Limit of detection	Accreditation Status	2048647	2048648	2048649
Calcium (dissolved)	mg/l	0.012	ISO 17025	190	1300	360
Copper (dissolved)	µg/l	0.7	ISO 17025	-	< 0.7	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.59	2.7	0.29
Fe2+	mg/l	0.2	NONE	< 0.20	1.80	0.20
Fe3+	mg/l	0.2	NONE	0.57	0.95	< 0.20
Mn (II)	mg/l	0.02	NONE	1.03	7.99	1.12
Mn (IV)	mg/l	0.02	NONE	1.28	5.69	1.28
Selenium (dissolved)	µg/l	4	ISO 17025	-	< 4.0	-

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.15	79.7	12.2
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	4.4	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.5	7.8	8.6
Copper (dissolved)	µg/l	0.5	ISO 17025	6.2	-	6.6
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	6.9	48	15
Selenium (dissolved)	µg/l	0.6	ISO 17025	4.8	29	8.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	11	20	7.1

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	18.1	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	9.1	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	8.9	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	9.4	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	6.4	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	18	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	9.1	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	30	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	33	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	17	< 10	36
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	15
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	110	< 10	51

Gases

Methane	mg/L	0.1	NONE	3.6	< 0.1	1.9
---------	------	-----	------	-----	-------	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-16648
Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-16648
Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Analytical Report Number : 21-16648
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2048648	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2048648	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2048648	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2048648	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2048648	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2048648	c	pH at 20oC in water	L005-PL	c
BH101	None Supplied	W	2048648	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2048647	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2048647	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2048647	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2048647	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2048647	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2048647	c	pH at 20oC in water	L005-PL	c
BH102	None Supplied	W	2048647	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2048649	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2048649	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2048649	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2048649	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2048649	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2048649	c	pH at 20oC in water	L005-PL	c
BH103	None Supplied	W	2048649	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-19641

Project / Site name:	North Hyde Gardens	Samples received on:	29/10/2021
Your job number:		Samples instructed on/ Analysis started on:	29/10/2021
Your order number:		Analysis completed by:	09/11/2021
Report Issue Number:	1	Report issued on:	09/11/2021
Samples Analysed:	3 water samples		

Signed:

Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
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: 21-19641
Project / Site name: North Hyde Gardens

Lab Sample Number	2065492			2065493			2065494		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.50-6.50			6.50-6.50			5.00-5.00		
Date Sampled	28/10/2021			28/10/2021			28/10/2021		
Time Taken	1015			1040			1110		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

pH	pH Units	N/A	ISO 17025	6.7	7.1	7.2
Sulphate as SO4	mg/l	0.045	ISO 17025	478	122	393
Total Sulphur	µg/l	15	NONE	160000	41000	130000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	2900	3600	3800
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	4.09	28.9	19.0
Nitrate as N	mg/l	0.01	ISO 17025	3.25	0.56	0.46
Nitrate as NO3	mg/l	0.05	ISO 17025	14.4	2.47	2.05
Nitrite as N	µg/l	1	ISO 17025	15	38	2.3
Nitrite as NO2	µg/l	5	ISO 17025	50	120	7.5
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	360	110	760
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.9	29	29

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	< 3.5	< 3.5
----------------------	------	-----	------	-------	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	59.4	2.90
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	1.13	0.66
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	47.1	12.9
Fluorene	µg/l	0.01	ISO 17025	< 0.01	22.5	8.81
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	17.3	11.6
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.50	26.6
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.76	27.9
Pyrene	µg/l	0.01	ISO 17025	< 0.01	1.31	21.6
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.11
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.83
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.52
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.15
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.63
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.50
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	0.53

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	153	127
-------------------	------	------	-----------	--------	-----	-----



Analytical Report Number: 21-19641
Project / Site name: North Hyde Gardens

Lab Sample Number	2065492			2065493			2065494		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.50-6.50			6.50-6.50			5.00-5.00		
Date Sampled	28/10/2021			28/10/2021			28/10/2021		
Time Taken	1015			1040			1110		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

Heavy Metals / Metalloids

Parameter	Units	Limit of detection	Accreditation Status	2065492	2065493	2065494
Calcium (dissolved)	mg/l	0.012	ISO 17025	910	180	340
Copper (dissolved)	µg/l	0.7	ISO 17025	7.2	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.073	0.16	0.42
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	0.40
Mn (II)	mg/l	0.02	NONE	1.92	0.19	0.51
Mn (IV)	mg/l	0.02	NONE	8.65	1.86	1.15

Arsenic (dissolved)	µg/l	0.15	ISO 17025	86.1	9.07	10.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	2.5	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	9.9	6.6	8.1
Copper (dissolved)	µg/l	0.5	ISO 17025	-	2.1	2.7
Lead (dissolved)	µg/l	0.2	ISO 17025	0.2	< 0.2	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	36	5.6	8.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	28	3.2	6.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	16	7.7	3.0

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	13.7	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	8.2	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	8.4	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	9.6	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	5.9	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	14	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	8.2	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	27	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	81	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	1500	23
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	180	89
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	15
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	1800	130

Gases

Methane	mg/L	0.1	NONE	< 0.1*	1.1*	< 0.1*
---------	------	-----	------	--------	------	--------

U/S = Unsuitable Sample I/S = Insufficient Sample
*Sample was delivered to Air Laboratory in deviating container and with headspace

Analytical Report Number : 21-19641
Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 21-19641
 Project / Site name: North Hyde Gardens

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Sample Deviation Report



Analytical Report Number : 21-19641
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2065492	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2065492	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2065492	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2065492	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2065492	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2065492	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2065493	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2065493	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2065493	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2065493	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2065493	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2065493	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2065494	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2065494	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2065494	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2065494	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2065494	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2065494	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-22475

Project / Site name:	North Hyde Gardens	Samples received on:	11/11/2021
Your job number:		Samples instructed on/ Analysis started on:	12/11/2021
Your order number:	211423_CB	Analysis completed by:	24/11/2021
Report Issue Number:	1	Report issued on:	24/11/2021
Samples Analysed:	3 water samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
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: 21-22475
Project / Site name: North Hyde Gardens

Your Order No: 211423_CB

Lab Sample Number	2080603			2080604			2080605		
Sample Reference	BH102			BH101			BH103		
Sample Number	BH102			BH101			BH103		
Depth (m)	6.00-6.00			6.00-6.00			5.00-5.00		
Date Sampled	10/11/2021			10/11/2021			10/11/2021		
Time Taken	None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

Parameter	Units	N/A	ISO 17025	2080603	2080604	2080605
pH	pH Units	N/A	ISO 17025	7.3	7.1	7.5
Sulphate as SO4	mg/l	0.045	ISO 17025	70.5	436	506
Total Sulphur	µg/l	15	NONE	23000	150000	170000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4000	1600	5200
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	35.1	2.76	23.0
Nitrate as N	mg/l	0.01	ISO 17025	0.47	3.72	0.30
Nitrate as NO3	mg/l	0.05	ISO 17025	2.10	16.5	1.31
Nitrite as N	µg/l	1	ISO 17025	3.9	250	6.6
Nitrite as NO2	µg/l	5	ISO 17025	13	810	22
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	140	460	140
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	32	3.0	< 1.0

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Parameter	Units	N/A	ISO 17025	2080603	2080604	2080605
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	< 3.5	< 3.5
----------------------	------	-----	------	-------	-------	-------

Speciated PAHs

Parameter	Units	N/A	ISO 17025	2080603	2080604	2080605
Naphthalene	µg/l	0.01	ISO 17025	12.4	< 0.01	1.05
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.61
Acenaphthene	µg/l	0.01	ISO 17025	30.9	< 0.01	4.77
Fluorene	µg/l	0.01	ISO 17025	16.1	< 0.01	2.27
Phenanthrene	µg/l	0.01	ISO 17025	17.4	< 0.01	5.51
Anthracene	µg/l	0.01	ISO 17025	2.31	< 0.01	12.8
Fluoranthene	µg/l	0.01	ISO 17025	4.52	< 0.01	22.3
Pyrene	µg/l	0.01	ISO 17025	2.95	< 0.01	19.0
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.54	< 0.01	4.08
Chrysene	µg/l	0.01	ISO 17025	0.49	< 0.01	4.09
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.33	< 0.01	3.24
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.12	< 0.01	1.29
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.20	< 0.01	1.96
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.48
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	0.48

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	88.2	< 0.16	83.9
-------------------	------	------	-----------	------	--------	------



Analytical Report Number: 21-22475
Project / Site name: North Hyde Gardens

Your Order No: 211423_CB

Lab Sample Number	2080603		2080604	2080605
Sample Reference	BH102		BH101	BH103
Sample Number	BH102		BH101	BH103
Depth (m)	6.00-6.00		6.00-6.00	5.00-5.00
Date Sampled	10/11/2021		10/11/2021	10/11/2021
Time Taken	None Supplied		None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Parameter	Units	Limit of detection	Accreditation Status	2080603	2080604	2080605
Calcium (dissolved)	mg/l	0.012	ISO 17025	170	800	360
Iron (dissolved)	mg/l	0.004	ISO 17025	0.23	0.18	0.28
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	0.21	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.55	3.52	0.48
Mn (IV)	mg/l	0.02	NONE	1.61	3.61	1.50

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.70	42.8	6.66
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	2.7	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.2	9.6	7.7
Copper (dissolved)	µg/l	0.5	ISO 17025	1.8	680	8.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.6	21	16
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.0	14	3.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.7	24	16

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	320	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	4500	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	4800	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	13	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	47	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	28	< 10	61
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	18
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	88	< 10	79

Gases

Methane	mg/L	0.1	NONE	6.7	< 0.1	2.6
---------	------	-----	------	-----	-------	-----

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-22475

Project / Site name: North Hyde Gardens

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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-22475

Project / Site name: North Hyde Gardens

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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Sample Deviation Report



Analytical Report Number : 21-22475
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	BH101	W	2080604	c	Ammonia as NH3 in water	L082-PL	c
BH101	BH101	W	2080604	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	BH101	W	2080604	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	BH101	W	2080604	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	BH101	W	2080604	c	Manganese II and IV in Water	L090-PL	c
BH101	BH101	W	2080604	c	pH at 20oC in water	L005-PL	c
BH101	BH101	W	2080604	c	pH at 20oC in water (automated)	L099-PL	c
BH102	BH102	W	2080603	c	Ammonia as NH3 in water	L082-PL	c
BH102	BH102	W	2080603	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	BH102	W	2080603	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	BH102	W	2080603	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	BH102	W	2080603	c	Manganese II and IV in Water	L090-PL	c
BH102	BH102	W	2080603	c	pH at 20oC in water	L005-PL	c
BH102	BH102	W	2080603	c	pH at 20oC in water (automated)	L099-PL	c
BH103	BH103	W	2080605	c	Ammonia as NH3 in water	L082-PL	c
BH103	BH103	W	2080605	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	BH103	W	2080605	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	BH103	W	2080605	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	BH103	W	2080605	c	Manganese II and IV in Water	L090-PL	c
BH103	BH103	W	2080605	c	pH at 20oC in water	L005-PL	c
BH103	BH103	W	2080605	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-24964

Project / Site name:	North Hyde Gardens	Samples received on:	24/11/2021
Your job number:		Samples instructed on/ Analysis started on:	24/11/2021
Your order number:		Analysis completed by:	06/12/2021
Report Issue Number:	1	Report issued on:	06/12/2021
Samples Analysed:	3 water samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
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: 21-24964
Project / Site name: North Hyde Gardens

Lab Sample Number				2093804	2093805	2093806
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				6.50-6.50	6.50-6.50	5.00-5.00
Date Sampled				23/11/2021	23/11/2021	23/11/2021
Time Taken				1110	1030	1130
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

pH	pH Units	N/A	ISO 17025	6.8	7.0	7.6
Sulphate as SO ₄	mg/l	0.045	ISO 17025	447	70.6	392
Total Sulphur	µg/l	15	NONE	150000	24000	130000
Sulphide	µg/l	5	NONE	< 5.0	U/S*	U/S*
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	2100	4400	7600
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	5.44	40.2	36.3
Nitrate as N	mg/l	0.01	ISO 17025	0.89	0.43	0.46
Nitrate as NO ₃	mg/l	0.05	ISO 17025	3.96	1.90	2.06
Nitrite as N	µg/l	1	ISO 17025	240	9.5	4.6
Nitrite as NO ₂	µg/l	5	ISO 17025	770	31	15
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	230	200	2700
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.6	32	34

Carbonate as CaCO ₃ (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	1200	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	3400	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	4600	< 3.5
----------------------	------	-----	------	-------	------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	35.6	3.41
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.65
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	30.4	10.6
Fluorene	µg/l	0.01	ISO 17025	< 0.01	17.4	9.02
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	11.2	18.8
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.00	39.3
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.56	43.8
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.74	38.5
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	12.1
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	12.5
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	8.75
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.25
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	5.30
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.76
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.59
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.87

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	97.8	212
-------------------	------	------	-----------	--------	------	-----

Heavy Metals / Metalloids

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.



Analytical Report Number: 21-24964
Project / Site name: North Hyde Gardens

Lab Sample Number				2093804	2093805	2093806
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				6.50-6.50	6.50-6.50	5.00-5.00
Date Sampled				23/11/2021	23/11/2021	23/11/2021
Time Taken				1110	1030	1130
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Calcium (dissolved)	mg/l	0.012	ISO 17025	770	220	370
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.097	0.22	0.14
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	2.56	0.05	0.44
Mn (IV)	mg/l	0.02	NONE	5.09	2.56	0.72

Arsenic (dissolved)	µg/l	0.15	ISO 17025	26.4	5.17	6.46
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.3	< 0.02	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.4	8.4	7.9
Copper (dissolved)	µg/l	0.5	ISO 17025	-	2.9	22
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	0.3	5.9
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	12	5.6	16
Selenium (dissolved)	µg/l	0.6	ISO 17025	18	2.4	3.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.7	4.7	4.3

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	32.4	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	18.9	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	15.9	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	18.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	11.7	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	32	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	19	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	55	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	43	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	430	210
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	300	290
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	47
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	880	540

Gases

Methane	mg/L	0.1	NONE	< 0.1	6.5	1.2
---------	------	-----	------	-------	-----	-----

U/S = Unsuitable Sample I/S = Insufficient Sample

*Analysis could not be completed due to sample matrix.



Analytical Report Number : 21-24964
Project / Site name: North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-24964
Project / Site name: North Hyde Gardens

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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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 30°C.

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

Sample Deviation Report



Analytical Report Number : 21-24964
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2093804	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2093805	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2093806	c	Biological oxygen demand (total) of water	L086-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
7 Swallow Place
London
W1B 2AG

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-28060

Project / Site name:	North Hyde Gardens	Samples received on:	08/12/2021
Your job number:		Samples instructed on/ Analysis started on:	09/12/2021
Your order number:		Analysis completed by:	17/12/2021
Report Issue Number:	1	Report issued on:	17/12/2021
Samples Analysed:	3 water samples		

Signed: _____

Joanna Wawrzeczek
Technical Reviewer (Reporting Team)
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: 21-28060
Project / Site name: North Hyde Gardens

Lab Sample Number				2110771	2110772	2110773
Sample Reference				BH103	BH102	BH101
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

	pH Units	N/A	ISO 17025	7.2	7.1	6.8
Sulphate as SO ₄	mg/l	0.045	ISO 17025	330	72.5	340
Total Sulphur	µg/l	15	NONE	110000	24000	110000
Sulphide	µg/l	5	NONE	U/S*	U/S*	< 5.0
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	6300	3700	2600
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	28.1	35.9	3.30
Nitrate as N	mg/l	0.01	ISO 17025	0.17	0.89	0.45
Nitrate as NO ₃	mg/l	0.05	ISO 17025	0.77	3.96	2.01
Nitrite as N	µg/l	1	ISO 17025	< 1.0	2.4	250
Nitrite as NO ₂	µg/l	5	ISO 17025	< 5.0	8.0	810
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	130	130	400
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	5.5	20	3.9

Carbonate as CaCO ₃ (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	1100	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	4000	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	5100	< 3.5
----------------------	------	-----	------	-------	------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	1.62	3.79	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	0.59	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	10.6	24.1	< 0.01
Fluorene	µg/l	0.01	ISO 17025	6.37	12.7	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	5.63	9.00	< 0.01
Anthracene	µg/l	0.01	ISO 17025	26.0	1.54	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	18.2	2.41	< 0.01
Pyrene	µg/l	0.01	ISO 17025	14.6	1.41	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	2.62	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	3.17	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	1.71	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.62	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.94	< 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	92.6	54.9	< 0.16
-------------------	------	------	-----------	------	------	--------



Analytical Report Number: 21-28060
Project / Site name: North Hyde Gardens

Lab Sample Number				2110771	2110772	2110773
Sample Reference				BH103	BH102	BH101
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	360	170	950
Iron (dissolved)	mg/l	0.004	ISO 17025	0.57	0.53	0.42
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	0.45	0.35	0.27
Mn (II)	mg/l	0.02	NONE	0.70	0.84	0.99
Mn (IV)	mg/l	0.02	NONE	1.08	1.14	8.63

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.51	2.35	45.3
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.97
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.3	5.3	7.5
Copper (dissolved)	µg/l	0.5	ISO 17025	3.0	4.4	160
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	< 0.2	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	0.06
Nickel (dissolved)	µg/l	0.5	ISO 17025	9.6	7.4	18
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.1	2.5	14
Zinc (dissolved)	µg/l	0.5	ISO 17025	13	9.5	18

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	35.4	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	15.3	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	11.8	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	11.9	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	8.6	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_ID_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_ID_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_ID_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_ID_AR	µg/l	1	ISO 17025	< 1.0	35	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_ID_AR	µg/l	1	ISO 17025	< 1.0	15	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_ID_AR	µg/l	1	ISO 17025	< 1.0	36	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	19	37	< 10
TPH-CWG - Aromatic >C16 - C21 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	65	16	< 10
TPH-CWG - Aromatic >C21 - C35 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_ID_AR_#1_#2_MS	µg/l	10	NONE	94	140	< 10

Gases

Methane	mg/L	0.1	NONE	7.3	5.1	< 0.1
---------	------	-----	------	-----	-----	-------

U/S = Unsuitable Sample I/S = Insufficient Sample
*Sample was oily, some analysis was not possible



Analytical Report Number : 21-28060
Project / Site name: North Hyde Gardens

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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 21-28060
Project / Site name: North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 21-28060
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2110773	a	None Supplied	None Supplied	None Supplied
BH102	None Supplied	W	2110772	a	None Supplied	None Supplied	None Supplied
BH103	None Supplied	W	2110771	a	None Supplied	None Supplied	None Supplied



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 21-30643

Replaces Analytical Report Number: 21-30643, issue no. 1
Client sampling date amended.

Project / Site name:	North Hyde Gardens	Samples received on:	21/12/2021
Your job number:		Samples instructed on/ Analysis started on:	22/12/2021
Your order number:		Analysis completed by:	11/01/2022
Report Issue Number:	2	Report issued on:	11/01/2022
Samples Analysed:	2 water samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 21-30643
Project / Site name: North Hyde Gardens

Lab Sample Number				2124976	2124977
Sample Reference				BH101	BH102
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				20/12/2021	20/12/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.1	7.5
pH	pH Units	N/A	ISO 17025	7.1	7.5
Sulphate as SO4	mg/l	0.045	ISO 17025	381	68.4
Total Sulphur	µg/l	15	NONE	130000	23000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	1800	3600
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	8.01	28.8
Nitrate as N	mg/l	0.01	ISO 17025	2.72	0.35
Nitrate as NO3	mg/l	0.05	ISO 17025	12.0	1.56
Nitrite as N	µg/l	1	ISO 17025	360	16
Nitrite as NO2	µg/l	5	ISO 17025	1200	54
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	850	120
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	3.0	6.7

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	< 3.5
----------------------	------	-----	------	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	35.1
Fluorene	µg/l	0.01	ISO 17025	< 0.01	18.9
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	7.62
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.40
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.68
Pyrene	µg/l	0.01	ISO 17025	< 0.01	1.32
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	67.0
-------------------	------	------	-----------	--------	------



Analytical Report Number: 21-30643
Project / Site name: North Hyde Gardens

Lab Sample Number				2124976	2124977
Sample Reference				BH101	BH102
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				20/12/2021	20/12/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	780	140
Copper (dissolved)	µg/l	0.7	ISO 17025	1.0	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.060	0.15
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.80	0.29
Mn (IV)	mg/l	0.02	NONE	7.18	1.20

Arsenic (dissolved)	µg/l	0.15	ISO 17025	39.7	3.61
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.7	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.0	3.8
Copper (dissolved)	µg/l	0.5	ISO 17025	-	5.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	46	7.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	13	1.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	11	11

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	17.5
Toluene	µg/l	1	ISO 17025	< 1.0	12.9
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	13.3
p & m-xylene	µg/l	1	ISO 17025	< 1.0	15.8
o-xylene	µg/l	1	ISO 17025	< 1.0	9.9
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_ID_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_ID_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_ID_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_ID_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_ID_AR	µg/l	1	ISO 17025	< 1.0	18
TPH-CWG - Aromatic >C7 - C8 HS_ID_AR	µg/l	1	ISO 17025	< 1.0	13
TPH-CWG - Aromatic >C8 - C10 HS_ID_AR	µg/l	1	ISO 17025	< 1.0	44
TPH-CWG - Aromatic >C10 - C12 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	< 10	1900
TPH-CWG - Aromatic >C16 - C21 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	< 10	1400
TPH-CWG - Aromatic >C21 - C35 EH_ID_AR_#1_#2_MS	µg/l	10	NONE	< 10	300
TPH-CWG - Aromatic (C5 - C35) HS+EH_ID_AR_#1_#2_MS	µg/l	10	NONE	< 10	3600

Gases

Methane	mg/L	0.1	NONE	< 0.1	4.3
---------	------	-----	------	-------	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-30643
Project / Site name: North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 21-30643
Project / Site name: North Hyde Gardens

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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Analytical Report Number : 21-30643
 Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2124976	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2124977	c	Biological oxygen demand (total) of water	L086-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
7 Swallow Place
London
W1B 2AG

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-31837

Project / Site name:	North Hyde Gardens	Samples received on:	06/01/2022
Your job number:		Samples instructed on/ Analysis started on:	10/01/2022
Your order number:		Analysis completed by:	19/01/2022
Report Issue Number:	1	Report issued on:	19/01/2022
Samples Analysed:	3 water samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 22-31837
Project / Site name: North Hyde Gardens

Lab Sample Number				2131674	2131675	2131676
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				3.69-6.64	4.09-7.00	3.81-5.49
Date Sampled				05/01/2022	05/01/2022	05/01/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

pH	pH Units	N/A	ISO 17025	6.8	7.0	7.2
Sulphate as SO4	mg/l	0.045	ISO 17025	476	51.1	765
Total Sulphur	µg/l	15	NONE	160000	17000	260000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	950	3200	4700
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.54	44.3	25.4
Nitrate as N	mg/l	0.01	ISO 17025	6.97	0.11	0.14
Nitrate as NO3	mg/l	0.05	ISO 17025	30.9	0.47	0.63
Nitrite as N	µg/l	1	ISO 17025	240	12	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	780	38	< 5.0
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	740	190	84
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.8	31	3.5

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	4200	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	3600	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	7800	< 3.5
----------------------	------	-----	------	-------	------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	356	1.38
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	1.66	0.24
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	42.2	5.61
Fluorene	µg/l	0.01	ISO 17025	< 0.01	22.1	2.84
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	23.8	1.73
Anthracene	µg/l	0.01	ISO 17025	< 0.01	4.50	1.77
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	10.3	1.13
Pyrene	µg/l	0.01	ISO 17025	< 0.01	6.60	0.81
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	1.13	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.81	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.44	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.12	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.30	< 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	470	15.5
-------------------	------	------	-----------	--------	-----	------



Analytical Report Number: 22-31837
Project / Site name: North Hyde Gardens

Lab Sample Number				2131674	2131675	2131676
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				3.69-6.64	4.09-7.00	3.81-5.49
Date Sampled				05/01/2022	05/01/2022	05/01/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	690	180	420
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.34	0.083	0.25
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	0.30	< 0.20	0.24
Mn (II)	mg/l	0.02	NONE	0.46	0.28	0.70
Mn (IV)	mg/l	0.02	NONE	5.32	2.03	1.38

Arsenic (dissolved)	µg/l	0.15	ISO 17025	29.2	2.92	4.46
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.6	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.4	4.7	3.6
Copper (dissolved)	µg/l	0.5	ISO 17025	-	5.0	5.7
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5	< 0.2	0.7
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	19	5.5	7.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	16	1.4	2.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.7	2.9	4.1

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	28.8	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	14.6	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	17.1	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	18.1	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	11.9	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	29	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	15	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	56	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	360	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	1000	85
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	380	40
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	1900	130

Gases

Methane	mg/L	0.1	NONE	< 0.1	3.5	1.9
---------	------	-----	------	-------	-----	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 22-31837
Project / Site name: North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 22-31837
Project / Site name: North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-31837
Project / Site name: North Hyde Gardens

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2131674	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2131674	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2131674	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2131674	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2131674	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2131674	c	Nitrate as N in water	L078-PL	c
BH101	None Supplied	W	2131674	c	Nitrate in water	L078-PL	c
BH101	None Supplied	W	2131674	c	Nitrite as N in water	L082-PL	c
BH101	None Supplied	W	2131674	c	Nitrite in water	L082-PL	c
BH101	None Supplied	W	2131674	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2131675	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2131675	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2131675	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2131675	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2131675	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2131675	c	Nitrate as N in water	L078-PL	c
BH102	None Supplied	W	2131675	c	Nitrate in water	L078-PL	c
BH102	None Supplied	W	2131675	c	Nitrite as N in water	L082-PL	c
BH102	None Supplied	W	2131675	c	Nitrite in water	L082-PL	c
BH102	None Supplied	W	2131675	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2131676	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2131676	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2131676	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2131676	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2131676	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2131676	c	Nitrate as N in water	L078-PL	c
BH103	None Supplied	W	2131676	c	Nitrate in water	L078-PL	c
BH103	None Supplied	W	2131676	c	Nitrite as N in water	L082-PL	c
BH103	None Supplied	W	2131676	c	Nitrite in water	L082-PL	c
BH103	None Supplied	W	2131676	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-34541

Project / Site name:	North Hyde Gardens	Samples received on:	20/01/2022
Your job number:		Samples instructed on/ Analysis started on:	21/01/2022
Your order number:		Analysis completed by:	01/02/2022
Report Issue Number:	1	Report issued on:	01/02/2022
Samples Analysed:	3 water samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
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: 22-34541
Project / Site name: North Hyde Gardens

Lab Sample Number				2144738	2144739	2144740
Sample Reference				BH102	BH101	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00
Date Sampled				19/01/2022	19/01/2022	19/01/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

pH	pH Units	N/A	ISO 17025	7.2	6.8	7.2
Sulphate as SO ₄	mg/l	0.045	ISO 17025	92.5	430	1250
Total Sulphur	µg/l	15	NONE	31000	140000	420000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	1300	540	5600
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	13.3	2.64	28.2
Nitrate as N	mg/l	0.01	ISO 17025	0.61	5.68	0.29
Nitrate as NO ₃	mg/l	0.05	ISO 17025	2.72	25.2	1.31
Nitrite as N	µg/l	1	ISO 17025	4.1	180	1.0
Nitrite as NO ₂	µg/l	5	ISO 17025	13	600	< 5.0
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	58	430	130
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.4	1.7	1.7

Carbonate as CaCO ₃ (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	450	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	450	< 3.5	< 3.5
----------------------	------	-----	------	-----	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	1.74	< 0.01	0.55
Acenaphthylene	µg/l	0.01	ISO 17025	0.52	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	9.80	< 0.01	3.32
Fluorene	µg/l	0.01	ISO 17025	4.43	< 0.01	1.22
Phenanthrene	µg/l	0.01	ISO 17025	0.47	< 0.01	0.76
Anthracene	µg/l	0.01	ISO 17025	0.47	< 0.01	1.17
Fluoranthene	µg/l	0.01	ISO 17025	1.87	< 0.01	0.97
Pyrene	µg/l	0.01	ISO 17025	1.04	< 0.01	0.70
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	20.3	< 0.16	8.69
-------------------	------	------	-----------	------	--------	------



Analytical Report Number: 22-34541
Project / Site name: North Hyde Gardens

Lab Sample Number				2144738	2144739	2144740
Sample Reference				BH102	BH101	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00
Date Sampled				19/01/2022	19/01/2022	19/01/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	110	700	580
Iron (dissolved)	mg/l	0.004	ISO 17025	0.14	0.074	0.061
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.09	0.62	0.59
Mn (IV)	mg/l	0.02	NONE	0.73	4.18	1.53

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.02	39.1	4.17
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	1.3	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.4	4.9	7.5
Copper (dissolved)	µg/l	0.5	ISO 17025	3.2	620	6.0
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	< 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	6.0	26	22
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.9	17	3.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	11	12	15

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	97	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	65	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	41	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	200	< 10	< 10

Gases

Methane	mg/L	0.1	NONE	0.6	< 0.1	1.2
---------	------	-----	------	-----	-------	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 22-34541
Project / Site name: North Hyde Gardens

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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 22-34541
Project / Site name: North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-34541
Project / Site name: North Hyde Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2144739	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2144739	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2144739	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2144739	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2144739	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2144739	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2144738	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2144738	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2144738	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2144738	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2144738	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2144738	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2144740	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2144740	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2144740	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2144740	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2144740	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2144740	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-37315

Project / Site name:	North Hyde Gardens	Samples received on:	02/02/2022
Your job number:		Samples instructed on/ Analysis started on:	03/02/2022
Your order number:		Analysis completed by:	14/02/2022
Report Issue Number:	1	Report issued on:	14/02/2022
Samples Analysed:	3 water samples		

Signed:

Joanna Wawrzeczko

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
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: 22-37315
Project / Site name: North Hyde Gardens

Lab Sample Number				2159893	2159894	2159895
Sample Reference				BH102	BH101	BH103
Sample Number				BH102	BH101	BH103
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00
Date Sampled				31/01/2022	31/01/2022	31/01/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

pH	pH Units	N/A	ISO 17025	7.1	6.8	7.3
Sulphate as SO4	mg/l	0.045	ISO 17025	71.9	414	843
Total Sulphur	µg/l	15	NONE	24000	140000	280000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	2700	540	6200
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	18.8	3.99	30.9
Nitrate as N	mg/l	0.01	ISO 17025	0.31	4.01	0.31
Nitrate as NO3	mg/l	0.05	ISO 17025	1.35	17.7	1.35
Nitrite as N	µg/l	1	ISO 17025	< 1.0	210	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	680	< 5.0
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	74	310	110
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.3	17	5.3
Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	1300	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	1300	< 3.5	< 3.5
----------------------	------	-----	------	------	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	0.72	< 0.01	0.70
Acenaphthylene	µg/l	0.01	ISO 17025	0.98	< 0.01	0.34
Acenaphthene	µg/l	0.01	ISO 17025	15.5	< 0.01	4.37
Fluorene	µg/l	0.01	ISO 17025	6.18	< 0.01	1.63
Phenanthrene	µg/l	0.01	ISO 17025	0.95	< 0.01	1.50
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.60
Fluoranthene	µg/l	0.01	ISO 17025	3.77	< 0.01	5.34
Pyrene	µg/l	0.01	ISO 17025	2.70	< 0.01	4.24
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.58	< 0.01	1.06
Chrysene	µg/l	0.01	ISO 17025	0.47	< 0.01	0.98
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.82
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.22
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.45
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	31.8	< 0.16	25.3
-------------------	------	------	-----------	------	--------	------



Environmental Science

Analytical Report Number: 22-37315
Project / Site name: North Hyde Gardens

Lab Sample Number				2159893	2159894	2159895
Sample Reference				BH102	BH101	BH103
Sample Number				BH102	BH101	BH103
Depth (m)				6.00-6.00	6.00-6.00	5.00-5.00
Date Sampled				31/01/2022	31/01/2022	31/01/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	130	560	470
Iron (dissolved)	mg/l	0.004	ISO 17025	0.033	0.056	0.088
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.02	0.23	0.07
Mn (IV)	mg/l	0.02	NONE	1.44	4.84	2.64

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.27	31.7	3.49
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	1.6	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.4	3.5	6.2
Copper (dissolved)	µg/l	0.5	ISO 17025	3.3	50	8.8
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	6.1	12	15
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.4	8.1	2.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.7	4.2	8.2

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	50	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	600	< 10	60
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	90	< 10	68
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	740	< 10	130

Gases

Methane	mg/L	0.1	NONE	1.6	< 0.1	2.9
---------	------	-----	------	-----	-------	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 22-37315
Project / Site name: North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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



Analytical Report Number : 22-37315
Project / Site name: North Hyde Gardens

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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-37315

Project / Site name: North Hyde Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	BH101	W	2159894	c	Ammonia as NH ₃ in water	L082-PL	c
BH101	BH101	W	2159894	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	BH101	W	2159894	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	BH101	W	2159894	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	BH101	W	2159894	c	Manganese II and IV in Water	L090-PL	c
BH101	BH101	W	2159894	c	pH at 20oC in water (automated)	L099-PL	c
BH102	BH102	W	2159893	c	Ammonia as NH ₃ in water	L082-PL	c
BH102	BH102	W	2159893	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	BH102	W	2159893	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	BH102	W	2159893	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	BH102	W	2159893	c	Manganese II and IV in Water	L090-PL	c
BH102	BH102	W	2159893	c	pH at 20oC in water (automated)	L099-PL	c
BH103	BH103	W	2159895	c	Ammonia as NH ₃ in water	L082-PL	c
BH103	BH103	W	2159895	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	BH103	W	2159895	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	BH103	W	2159895	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	BH103	W	2159895	c	Manganese II and IV in Water	L090-PL	c
BH103	BH103	W	2159895	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-40962

Project / Site name:	North Hyae Gardens	Samples received on:	21/02/2022
Your job number:		Samples instructed on/ Analysis started on:	21/02/2022
Your order number:		Analysis completed by:	02/03/2022
Report Issue Number:	1	Report issued on:	03/03/2022
Samples Analysed:	3 water samples		

Izabela Wójcik
Signed: _____

Izabela Wójcik
Technical Reviewer (Reporting Team)
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: 22-40962
Project / Site name: North Hyae Gardens

Lab Sample Number	2180164			2180165	2180166
Sample Reference	BH101			BH102	BH103
Sample Number	None Supplied			None Supplied	None Supplied
Depth (m)	6.50			6.30	5.00
Date Sampled	17/02/2022			17/02/2022	17/02/2022
Time Taken	1013			1050	1113
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	pH Units	N/A	ISO 17025	7.0	7.2	7.3
Sulphate as SO4	mg/l	0.045	ISO 17025	426	62.4	951
Total Sulphur	µg/l	15	NONE	140000	21000	320000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	510	2700	5800
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	18.7	34.1	44.9
Nitrate as N	mg/l	0.01	ISO 17025	3.92	0.22	0.16
Nitrate as NO3	mg/l	0.05	ISO 17025	17.4	0.99	0.73
Nitrite as N	µg/l	1	ISO 17025	180	< 1.0	2.7
Nitrite as NO2	µg/l	5	ISO 17025	580	< 5.0	8.7
Alkalinity as CaCO3 (titration)	mg/l	3	NONE	370	450	760
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	420	74	120
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.7	7.6	6.6

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	1600	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	1600	< 3.5
----------------------	------	-----	------	-------	------	-------

Speciated PAHs

	µg/l	0.01	ISO 17025	5.12	113	4.99
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	1.13	0.20
Acenaphthylene	µg/l	0.01	ISO 17025	0.70	26.8	5.69
Acenaphthene	µg/l	0.01	ISO 17025	0.24	12.2	2.22
Fluorene	µg/l	0.01	ISO 17025	< 0.01	9.09	1.18
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	1.20	2.00
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.98	1.48
Pyrene	µg/l	0.01	ISO 17025	< 0.01	1.06	1.02
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	6.06	167	18.8
-------------------	------	------	-----------	------	-----	------



Analytical Report Number: 22-40962
Project / Site name: North Hyae Gardens

Lab Sample Number	2180164			2180165			2180166		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.50			6.30			5.00		
Date Sampled	17/02/2022			17/02/2022			17/02/2022		
Time Taken	1013			1050			1113		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

Heavy Metals / Metalloids

Parameter	Units	Limit of detection	Accreditation Status	2180164	2180165	2180166
Calcium (dissolved)	mg/l	0.012	ISO 17025	690	130	490
Iron (dissolved)	mg/l	0.004	ISO 17025	0.060	0.056	0.067
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.22	0.27	0.42
Mn (IV)	mg/l	0.02	NONE	5.59	1.23	2.03

Arsenic (dissolved)	µg/l	0.15	ISO 17025	41.6	2.72	2.75
Cadmium (dissolved)	µg/l	0.02	ISO 17025	2.2	< 0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.1	5.5	5.2
Copper (dissolved)	µg/l	0.5	ISO 17025	66	8.5	8.2
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	29	5.6	11
Selenium (dissolved)	µg/l	0.6	ISO 17025	22	1.4	3.0
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.5	5.4	8.2

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS,1D,AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH,1D,AL,#1,#2,MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH,1D,AL,#1,#2,MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH,1D,AL,#1,#2,MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH,1D,AL,#1,#2,MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH,1D,AL,#1,#2,MS}	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS,1D,AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH,1D,AR,#1,#2,MS}	µg/l	10	NONE	< 10	260	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH,1D,AR,#1,#2,MS}	µg/l	10	NONE	< 10	1200	150
TPH-CWG - Aromatic >C16 - C21 _{EH,1D,AR,#1,#2,MS}	µg/l	10	NONE	< 10	830	160
TPH-CWG - Aromatic >C21 - C35 _{EH,1D,AR,#1,#2,MS}	µg/l	10	NONE	< 10	97	50
TPH-CWG - Aromatic (C5 - C35) _{HS+EH,1D,AR,#1,#2,MS}	µg/l	10	NONE	< 10	2400	360

Gases

Methane	mg/L	0.1	NONE	< 0.1	0.9	1.8
---------	------	-----	------	-------	-----	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 22-40962
Project / Site name: North Hyae Gardens

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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanimide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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

Analytical Report Number : 22-40962
Project / Site name: North Hyae Gardens

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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-40962
Project / Site name: North Hyae Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2180164	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2180164	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2180164	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2180164	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2180164	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2180164	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2180165	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2180165	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2180165	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2180165	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2180165	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2180165	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2180166	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2180166	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2180166	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2180166	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2180166	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2180166	c	pH at 20oC in water (automated)	L099-PL	c



Charlie Bruinvels
Paragon New Homes Ltd
7 Swallow Place
London
W1B 2AG

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-49632

Project / Site name:	North Hyde Gardens	Samples received on:	01/04/2022
Your job number:		Samples instructed on/ Analysis started on:	04/04/2022
Your order number:	211423 CB	Analysis completed by:	12/04/2022
Report Issue Number:	1	Report issued on:	12/04/2022
Samples Analysed:	3 water samples		

Martyna Langer
Signed: _____

Martyna Langer
Junior 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: 22-49632
Project / Site name: North Hyde Gardens

Your Order No: 211423 CB

Lab Sample Number				2226446	2226447	2226448
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

pH	pH Units	N/A	ISO 17025	6.8	7	7.2
Sulphate as SO4	mg/l	0.045	ISO 17025	610	278	848
Total Sulphur	µg/l	15	NONE	200000	93000	280000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	290	2700	5300
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.37	17.9	27.9
Nitrate as N	mg/l	0.01	ISO 17025	6.12	0.15	0.15
Nitrate as NO3	mg/l	0.05	ISO 17025	27.1	0.68	0.68
Nitrite as N	µg/l	1	ISO 17025	210	< 1.0	6.2
Nitrite as NO2	µg/l	5	ISO 17025	680	< 5.0	20
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	330	66	180
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	3.2	6.4	4.6

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	120	960	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	120	960	< 3.5
----------------------	------	-----	------	-----	-----	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.98
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	0.78	1.51
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	15.9	3.23
Fluorene	µg/l	0.01	ISO 17025	< 0.01	6.86	3.67
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	2.82	10.3
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.64	30.6
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	2.02	55.6
Pyrene	µg/l	0.01	ISO 17025	< 0.01	1.17	47
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	11.9
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	10.9
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	8.57
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	2.78
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.72
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.17
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	1.42

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	30.2	195
-------------------	------	------	-----------	--------	------	-----



Analytical Report Number: 22-49632
Project / Site name: North Hyde Gardens

Your Order No: 211423 CB

Lab Sample Number	2226446	2226447	2226448
Sample Reference	BH101	BH102	BH103
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	Deviating	Deviating	Deviating
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status

Heavy Metals / Metalloids

Element	Unit	LOD	ISO 17025	2226446	2226447	2226448
Calcium (dissolved)	mg/l	0.012	ISO 17025	750	190	440
Iron (dissolved)	mg/l	0.004	ISO 17025	0.16	0.03	0.081
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.33	0.3	0.29
Mn (IV)	mg/l	0.02	NONE	4.56	1.14	1.39

Element	Unit	LOD	ISO 17025	2226446	2226447	2226448
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.63	1.68	2.03
Cadmium (dissolved)	µg/l	0.02	ISO 17025	1.7	0.04	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	5	3.7	3.6
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	< 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	18	7.3	15
Selenium (dissolved)	µg/l	0.6	ISO 17025	18	1.3	2.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.5	1.9	14

Monoaromatics & Oxygenates

Compound	Unit	LOD	ISO 17025	2226446	2226447	2226448
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	7.4	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	7.8	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	5.9	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

Parameter	Unit	LOD	ISO 17025	2226446	2226447	2226448
TPH-CWG - Aliphatic >C5 - C6 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10

Parameter	Unit	LOD	ISO 17025	2226446	2226447	2226448
TPH-CWG - Aromatic >C5 - C7 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0	24	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	30	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	670	290
TPH-CWG - Aromatic >C16 - C21 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	530	370
TPH-CWG - Aromatic >C21 - C35 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	130	1800
TPH-CWG - Aromatic (C5 - C35) _{HS+EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	1400	2500

Gases

Gas	Unit	LOD	ISO 17025	2226446	2226447	2226448
Methane	mg/L	0.1	NONE	< 0.1*	1*	2.2*

U/S = Unsuitable Sample I/S = Insufficient Sample
*Sample was delivered to Air Laboratory in deviating container and with headspace



Analytical Report Number : 22-49632
Project / Site name: North Hyde Gardens

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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 22-49632
 Project / Site name: North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-49632
Project / Site name: North Hyde Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2226446	a	None Supplied	None Supplied	None Supplied
BH102	None Supplied	W	2226447	a	None Supplied	None Supplied	None Supplied
BH103	None Supplied	W	2226448	a	None Supplied	None Supplied	None Supplied



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-61613

Project / Site name:	North Hyde Gardens	Samples received on:	27/05/2022
Your job number:		Samples instructed on/ Analysis started on:	27/05/2022
Your order number:		Analysis completed by:	09/06/2022
Report Issue Number:	1	Report issued on:	09/06/2022
Samples Analysed:	3 water samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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: 22-61613
Project / Site name: North Hyde Gardens

Lab Sample Number	2294582			2294583			2294584		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	6.50-6.50			6.50-6.50			5.00-5.00		
Date Sampled	26/05/2022			26/05/2022			26/05/2022		
Time Taken	1540			1510			1440		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

pH	pH Units	N/A	ISO 17025	6.8	7.3	7.2
Sulphate as SO4	µg/l	45	ISO 17025	298000	118000	636000
Sulphate as SO4	mg/l	0.045	ISO 17025	298	118	636
Total Sulphur	µg/l	15	NONE	99000	39000	210000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	220	3400	6200
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	6.61	20.2	35.8
Nitrate as N	mg/l	0.01	ISO 17025	1.71	0.24	0.35
Nitrate as NO3	mg/l	0.05	ISO 17025	7.57	1.04	1.57
Nitrite as N	µg/l	1	ISO 17025	36	< 1.0	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	120	< 5.0	< 5.0
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	94	68	120
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	5.9	18

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	920	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	920	< 3.5
----------------------	------	-----	------	-------	-----	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	1.76	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	6.84	13.7
Fluorene	µg/l	0.01	ISO 17025	< 0.01	2.15	6.39
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.91
Anthracene	µg/l	0.01	ISO 17025	< 0.01	1.47	0.68
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.44	1.27
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.96	0.76
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



Analytical Report Number: 22-61613
Project / Site name: North Hyde Gardens

Lab Sample Number	2294582		2294583		2294584	
Sample Reference	BH101		BH102		BH103	
Sample Number	None Supplied		None Supplied		None Supplied	
Depth (m)	6.50-6.50		6.50-6.50		5.00-5.00	
Date Sampled	26/05/2022		26/05/2022		26/05/2022	
Time Taken	1540		1510		1440	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	14.6	26.7

Heavy Metals / Metalloids

	mg/l	0.012	ISO 17025	200	180	410
Calcium (dissolved)	mg/l	0.004	ISO 17025	0.26	2.4	2.8
Iron (dissolved)	mg/l	0.2	NONE	< 0.20	< 0.20	0.5
Fe2+	mg/l	0.2	NONE	< 0.20	2.27	2.26
Fe3+	mg/l	0.02	NONE	1.47	1.87	1.45
Mn (II)	mg/l	0.02	NONE	0.36	0.11	0.62
Mn (IV)	mg/l					

	µg/l	0.15	ISO 17025	0.4	2.01	4.35
Arsenic (dissolved)	µg/l	0.02	ISO 17025	0.29	< 0.02	< 0.02
Cadmium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.3
Chromium (dissolved)	µg/l	0.5	ISO 17025	4.7	1.9	0.6
Copper (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Lead (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Mercury (dissolved)	µg/l	0.5	ISO 17025	7.4	2.6	3.7
Nickel (dissolved)	µg/l	0.6	ISO 17025	6.1	1.4	2.6
Selenium (dissolved)	µg/l	0.5	ISO 17025	4.7	2.1	7.8
Zinc (dissolved)	µg/l					

Monoaromatics & Oxygenates

	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C5 - C6 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS_ID_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH_ID_AL_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10

	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C5 - C7 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS_ID_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	120	22
TPH-CWG - Aromatic >C16 - C21 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	36	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH_ID_AR_#1_#2_MS}	µg/l	10	NONE	< 10	160	22

Gases

	mg/L	0.1	NONE	< 0.1	1.7	7.4
Methane	mg/L	0.1	NONE	< 0.1	1.7	7.4

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-61613

Project / Site name: North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



Analytical Report Number : 22-61613
 Project / Site name: North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-61613
Project / Site name: North Hyde Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2294582	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2294582	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2294582	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2294582	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2294582	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2294582	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2294583	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2294583	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2294583	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2294583	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2294583	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2294583	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2294584	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2294584	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2294584	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2294584	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2294584	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2294584	c	pH at 20oC in water (automated)	L099-PL	c



4041



Charlie Bruinvels
Paragon New Homes Ltd
7 Swallow Place
London
W1B 2AG

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

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-68744

Project / Site name:	North Hyde	Samples received on:	30/06/2022
Your job number:		Samples instructed on/ Analysis started on:	01/07/2022
Your order number:		Analysis completed by:	11/07/2022
Report Issue Number:	1	Report issued on:	12/07/2022
Samples Analysed:	3 water samples		

Signed: _____

Joanna Wawrzeczko
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.



4041



Analytical Report Number: 22-68744
Project / Site name: North Hyde

Lab Sample Number				2335358	2335359	2335360
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

	pH Units	N/A	ISO 17025	6.9	7	7.2
Sulphate as SO4	mg/l	0.045	ISO 17025	515	115	423
Total Sulphur	µg/l	15	NONE	170000	38000	140000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	310	3600	8200
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	4.99	19.9	37.1
Nitrate as N	mg/l	0.01	ISO 17025	2.52	0.33	0.69
Nitrate as NO3	mg/l	0.05	ISO 17025	11.2	1.45	3.06
Nitrite as N	µg/l	1	ISO 17025	39	7.2	11
Nitrite as NO2	µg/l	5	ISO 17025	130	24	36
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	120	78	130
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.1	6.6	6.2

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	2100	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	2100	< 3.5
----------------------	------	-----	------	-------	------	-------



4041



Analytical Report Number: 22-68744
Project / Site name: North Hyde

Lab Sample Number				2335358	2335359	2335360
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

Speciated PAHs

Compound	Units	Limit of detection	Accreditation Status	2335358	2335359	2335360
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.93
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.77
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	13.1	2.33
Fluorene	µg/l	0.01	ISO 17025	< 0.01	6.43	1.72
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	3.95	4.12
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.61	11.6
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.87	29.2
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.43	24.4
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	5.46
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	5.6
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.05
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.11
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.56
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

Parameter	Units	Limit of detection	Accreditation Status	2335358	2335359	2335360
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	25.4	91.8

Heavy Metals / Metalloids

Compound	Units	Limit of detection	Accreditation Status	2335358	2335359	2335360
Calcium (dissolved)	mg/l	0.012	ISO 17025	440	250	390
Iron (dissolved)	mg/l	0.004	ISO 17025	0.1	0.14	0.23
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	0.2
Mn (II)	mg/l	0.02	NONE	1.8	2.46	1.24
Mn (IV)	mg/l	0.02	NONE	1.48	0.26	1.31

Compound	Units	Limit of detection	Accreditation Status	2335358	2335359	2335360
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.64	2.91	5.27
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.78	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	5	1.9	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	< 0.2	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	6.9	1.9	3.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	10	1.6	2.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.2	2.7	5.9

Monoaromatics & Oxygenates

Compound	Units	Limit of detection	Accreditation Status	2335358	2335359	2335360
Benzene	µg/l	1	ISO 17025	< 1.0	9.3	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	2.7	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	1.5	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	4	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

Parameter	Units	Limit of detection	Accreditation Status	2335358	2335359	2335360
TPH-CWG - Aliphatic >C5 - C6 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH 1D AL #1 #2 MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH 1D AL #1 #2 MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH 1D AL #1 #2 MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH 1D AL #1 #2 MS}	µg/l	10	NONE	< 10	< 10	< 10

Analytical Report Number: 22-68744
Project / Site name: North Hyde

Lab Sample Number				2335358	2335359	2335360
Sample Reference				BH101	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			
TPH-CWG - Aliphatic (C5 - C35) <small>HS+EH_ID_AL_#1_#2_MS</small>	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 <small>HS_ID_AR</small>	µg/l	1	ISO 17025	< 1.0	9.3	< 1.0
TPH-CWG - Aromatic >C7 - C8 <small>HS_ID_AR</small>	µg/l	1	ISO 17025	< 1.0	2.7	< 1.0
TPH-CWG - Aromatic >C8 - C10 <small>HS_ID_AR</small>	µg/l	1	ISO 17025	< 1.0	8.5	< 1.0
TPH-CWG - Aromatic >C10 - C12 <small>EH_ID_AR_#1_#2_MS</small>	µg/l	10	NONE	< 10	< 10	30
TPH-CWG - Aromatic >C12 - C16 <small>EH_ID_AR_#1_#2_MS</small>	µg/l	10	NONE	< 10	790	150
TPH-CWG - Aromatic >C16 - C21 <small>EH_ID_AR_#1_#2_MS</small>	µg/l	10	NONE	< 10	770	170
TPH-CWG - Aromatic >C21 - C35 <small>EH_ID_AR_#1_#2_MS</small>	µg/l	10	NONE	< 10	90	130
TPH-CWG - Aromatic (C5 - C35) <small>HS+EH_ID_AR_#1_#2_MS</small>	µg/l	10	NONE	< 10	1700	480
Gases						
Methane	mg/L	0.1	NONE	< 0.1	3.9	7.5

U/S = Unsuitable Sample I/S = Insufficient Sample



4041



Analytical Report Number : 22-68744

Project / Site name: North Hyde

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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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

Analytical Report Number : 22-68744
Project / Site name: North Hyde

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods		W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.



Analytical Report Number : 22-68744
 Project / Site name: North Hyde

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
----------------------	-------------------------------	-----------------------------	---------------	--------------------	----------------------

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

Analytical Report Number : 22-68744

Project / Site name: North Hyde

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2335358	ab	BTEX and MTBE in water (Monoaromatics)	L073B-PL	b
BH101	None Supplied	W	2335358	ab	Gases C1-C4	None Supplied	b
BH102	None Supplied	W	2335359	ab	BTEX and MTBE in water (Monoaromatics)	L073B-PL	b
BH102	None Supplied	W	2335359	ab	Gases C1-C4	None Supplied	b
BH103	None Supplied	W	2335360	a	None Supplied	None Supplied	None Supplied



4041



Charlie Bruinvels
Paragon New Homes Ltd
The Harlequin Building
65 Southwark Street
London
SE1 0HR

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-74447

Project / Site name:	Paragon North Hyde Gardens	Samples received on:	26/07/2022
Your job number:		Samples instructed on/ Analysis started on:	28/07/2022
Your order number:		Analysis completed by:	08/08/2022
Report Issue Number:	1	Report issued on:	08/08/2022
Samples Analysed:	2 water samples		

Signed: _____

Anna Goc
Junior 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.



4041



Environmental Science

Analytical Report Number: 22-74447

Project / Site name: Paragon North Hyde Gardens

Lab Sample Number				2368344	2368345
Sample Reference				BH103	BH102
Sample Number				None Supplied	None Supplied
Depth (m)				4.00-6.50	5.00-7.00
Date Sampled				25/07/2022	25/07/2022
Time Taken				0800	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.3	7.2
Sulphate as SO ₄	mg/l	0.045	ISO 17025	311	60.4
Total Sulphur	µg/l	15	NONE	100000	20000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	9000	4300
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	44.3	31.4
Nitrate as N	mg/l	0.01	ISO 17025	0.57	0.4
Nitrate as NO ₃	mg/l	0.05	ISO 17025	2.54	1.78
Nitrite as N	µg/l	1	ISO 17025	< 1.0	6.9
Nitrite as NO ₂	µg/l	5	ISO 17025	< 5.0	23
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	650	110
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	48	5.6

Carbonate as CaCO ₃ (titration)	mg/l	10	NONE	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	610
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	610
----------------------	------	-----	------	-------	-----

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	4.06	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	1.77	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	12.2	8.81
Fluorene	µg/l	0.01	ISO 17025	10.7	2.98
Phenanthrene	µg/l	0.01	ISO 17025	27.9	0.53
Anthracene	µg/l	0.01	ISO 17025	51.6	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	55.5	1.26
Pyrene	µg/l	0.01	ISO 17025	44.5	0.81
Benzo(a)anthracene	µg/l	0.01	ISO 17025	12.6	< 0.01
Chrysene	µg/l	0.01	ISO 17025	11.8	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	10.5	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	3.51	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	6.54	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	2.2	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	0.63	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	2.42	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	258	14.4
-------------------	------	------	-----------	-----	------

Heavy Metals / Metalloids



4041



Environmental Science

Analytical Report Number: 22-74447

Project / Site name: Paragon North Hyde Gardens

Lab Sample Number				2368344	2368345
Sample Reference				BH103	BH102
Sample Number				None Supplied	None Supplied
Depth (m)				4.00-6.50	5.00-7.00
Date Sampled				25/07/2022	25/07/2022
Time Taken				0800	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Calcium (dissolved)	mg/l	0.012	ISO 17025	400	210
Iron (dissolved)	mg/l	0.004	ISO 17025	0.15	0.44
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	0.41
Mn (II)	mg/l	0.02	NONE	0.9	1.65
Mn (IV)	mg/l	0.02	NONE	1.07	0.68

Arsenic (dissolved)	µg/l	0.15	ISO 17025	8.36	2.71
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	0.9	4.6
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	11	4.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.7	1.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	5	9.9

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10



4041



Analytical Report Number: 22-74447

Project / Site name: Paragon North Hyde Gardens

Lab Sample Number				2368344	2368345
Sample Reference				BH103	BH102
Sample Number				None Supplied	None Supplied
Depth (m)				4.00-6.50	5.00-7.00
Date Sampled				25/07/2022	25/07/2022
Time Taken				0800	0900
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
TPH-CWG - Aromatic >C5 - C7 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	70	670
TPH-CWG - Aromatic >C12 - C16 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	490	3500
TPH-CWG - Aromatic >C16 - C21 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	610	1200
TPH-CWG - Aromatic >C21 - C35 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	1700	530
TPH-CWG - Aromatic (C5 - C35) _{HS+EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	2900	5900

Gases

Methane	mg/L	0.1	NONE	7	4.8
---------	------	-----	------	---	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



4041



Environmental Science

Analytical Report Number : 22-74447

Project / Site name: Paragon North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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



4041



Environmental Science

Analytical Report Number : 22-74447

Project / Site name: Paragon North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods	L110B	W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.



4041



Environmental Science

Analytical Report Number : 22-74447

Project / Site name: Paragon North Hyde Gardens

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
----------------------	-------------------------------	-----------------------------	---------------	--------------------	----------------------

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

Sample Deviation Report



Analytical Report Number : 22-74447

Project / Site name: Paragon North Hyde Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH102	None Supplied	W	2368345	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2368345	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2368345	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2368345	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2368345	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2368345	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2368344	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2368344	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2368344	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2368344	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2368344	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2368344	c	pH at 20oC in water (automated)	L099-PL	c



4041



Charlie Bruinvels
Paragon New Homes Ltd
7 Swallow Place
London
W1B 2AG

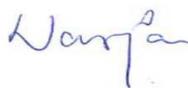
i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

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

e: charliebruinvels@paragonbc.co.uk

Analytical Report Number : 22-79545

Project / Site name:	North Hyde Gardens	Samples received on:	18/08/2022
Your job number:		Samples instructed on/ Analysis started on:	23/08/2022
Your order number:		Analysis completed by:	31/08/2022
Report Issue Number:	1	Report issued on:	31/08/2022
Samples Analysed:	3 water samples		



Signed:
Dominika Warjan
Junior 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.



4041



Analytical Report Number: 22-79545
Project / Site name: North Hyde Gardens

Lab Sample Number	2398327			2398328			2398329		
Sample Reference	BH101			BH102			BH103		
Sample Number	None Supplied			None Supplied			None Supplied		
Depth (m)	None Supplied			None Supplied			None Supplied		
Date Sampled	17/08/2022			17/08/2022			17/08/2022		
Time Taken	None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						

General Inorganics

pH	pH Units	N/A	ISO 17025	7.9	7	7.3
Sulphate as SO4	mg/l	0.045	ISO 17025	239	24.8	290
Total Sulphur	µg/l	15	NONE	80000	8300	97000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	56	4400	8900
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	6.21	31.8	43.1
Nitrate as N	mg/l	0.01	ISO 17025	1.49	0.23	0.36
Nitrate as NO3	mg/l	0.05	ISO 17025	6.59	1.01	1.57
Nitrite as N	µg/l	1	ISO 17025	10	< 1.0	12
Nitrite as NO2	µg/l	5	ISO 17025	33	< 5.0	38
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	49	110	190
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2	19	9.3

Carbonate as CaCO3 (titration)	mg/l	10	NONE	< 10	< 10	< 10
Dissolved Carbon Dioxide	mg/l	1	NONE	< 1.0	< 1.0	< 1.0

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	< 0.5	1400	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5	1400	< 3.5
----------------------	------	-----	------	-------	------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	11.6	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.42
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	20.7	11
Fluorene	µg/l	0.01	ISO 17025	< 0.01	8.98	3.28
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	6.12	2.5
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.81	1.06
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.28	3.25
Pyrene	µg/l	0.01	ISO 17025	< 0.01	0.7	2.27
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.36
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.24
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	50.2	24.4
-------------------	------	------	-----------	--------	------	------



4041



Analytical Report Number: 22-79545
Project / Site name: North Hyde Gardens

Lab Sample Number	2398327			2398328	2398329
Sample Reference	BH101			BH102	BH103
Sample Number	None Supplied			None Supplied	None Supplied
Depth (m)	None Supplied			None Supplied	None Supplied
Date Sampled	17/08/2022			17/08/2022	17/08/2022
Time Taken	None Supplied			None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	180	240	400
Iron (dissolved)	mg/l	0.004	ISO 17025	0.056	0.37	0.067
Fe2+	mg/l	0.2	NONE	< 0.20	0.2	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20
Mn (II)	mg/l	0.02	NONE	0.62	1.25	1.12
Mn (IV)	mg/l	0.02	NONE	0.59	1.32	1.19

Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.92	5	4.9
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.39	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.7	0.2	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	9.1	3	2.1
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	7.6	5.7	10
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.3	1.3	2.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.8	2.4	3.1

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	26.1	21.7
Toluene	µg/l	1	ISO 17025	< 1.0	4.7	3.4
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	5.7	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	4.7	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	4.6	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 HS_1D_AL	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	26	22
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	4.7	3.4
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1.0	15	< 1.0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	140	< 10
TPH-CWG - Aromatic >C12 - C16 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	450	140
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	77
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	640	250

Gases

Methane	mg/L	0.1	NONE	< 0.1	6.6	4.9
---------	------	-----	------	-------	-----	-----

U/S = Unsuitable Sample I/S = Insufficient Sample



4041



Analytical Report Number : 22-79545

Project / Site name: North Hyde Gardens

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
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
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Biological oxygen demand (total) of water	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW.	In-house method based on standard method 5210B.	L086-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Dissolved Carbon Dioxide in water	Determination of dissolved carbon dioxide in water by colorimetry and calculation.	In house method - based on Alkalinity	L025-PL	W	NONE
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).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
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
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
Total Sulphur in water	Determination of total sulphur in water by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Ammonia as NH3 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
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). 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

Analytical Report Number : 22-79545

Project / Site name: North Hyde Gardens

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
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
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
Alkalinity in Water (by titration)	Determination of Alkalinity by titration (colorimetry).	In house method based on MEWAM & USEPA Method 310.2.	L025-PL	W	NONE
Gases C1-C4	Determination of volatile hydrocarbons by Refinery Gas Analyzer	In-house methods	L110B	W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
Chemical Oxygen Demand in Water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW.	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

Sample Deviation Report



Analytical Report Number : 22-79545
Project / Site name: North Hyde Gardens

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	2398327	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	2398327	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	2398327	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	2398327	c	Iron (II) and Iron (III) in water	L079-PL	c
BH101	None Supplied	W	2398327	c	Manganese II and IV in Water	L090-PL	c
BH101	None Supplied	W	2398327	c	Nitrate as N in water	L078-PL	c
BH101	None Supplied	W	2398327	c	Nitrate in water	L078-PL	c
BH101	None Supplied	W	2398327	c	Nitrite as N in water	L082-PL	c
BH101	None Supplied	W	2398327	c	Nitrite in water	L082-PL	c
BH101	None Supplied	W	2398327	c	pH at 20oC in water (automated)	L099-PL	c
BH102	None Supplied	W	2398328	c	Ammonia as NH3 in water	L082-PL	c
BH102	None Supplied	W	2398328	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102	None Supplied	W	2398328	c	Biological oxygen demand (total) of water	L086-PL	c
BH102	None Supplied	W	2398328	c	Iron (II) and Iron (III) in water	L079-PL	c
BH102	None Supplied	W	2398328	c	Manganese II and IV in Water	L090-PL	c
BH102	None Supplied	W	2398328	c	Nitrate as N in water	L078-PL	c
BH102	None Supplied	W	2398328	c	Nitrate in water	L078-PL	c
BH102	None Supplied	W	2398328	c	Nitrite as N in water	L082-PL	c
BH102	None Supplied	W	2398328	c	Nitrite in water	L082-PL	c
BH102	None Supplied	W	2398328	c	pH at 20oC in water (automated)	L099-PL	c
BH103	None Supplied	W	2398329	c	Ammonia as NH3 in water	L082-PL	c
BH103	None Supplied	W	2398329	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103	None Supplied	W	2398329	c	Biological oxygen demand (total) of water	L086-PL	c
BH103	None Supplied	W	2398329	c	Iron (II) and Iron (III) in water	L079-PL	c
BH103	None Supplied	W	2398329	c	Manganese II and IV in Water	L090-PL	c
BH103	None Supplied	W	2398329	c	Nitrate as N in water	L078-PL	c
BH103	None Supplied	W	2398329	c	Nitrate in water	L078-PL	c
BH103	None Supplied	W	2398329	c	Nitrite as N in water	L082-PL	c
BH103	None Supplied	W	2398329	c	Nitrite in water	L082-PL	c
BH103	None Supplied	W	2398329	c	pH at 20oC in water (automated)	L099-PL	c



a Colliers
Company.

**Appendix 5 – Extent
of Survey and
Limitations**

Standard Limitations

Inspection and Concealed Parts: Our report will cover all parts of the site made available to us during our visual inspection of the property, which is normally and safely accessible without the use of ladders, and therefore exclude all ceiling, wall and floor voids unless stated within the report. Where inspection of roof areas by use of access hoists or a drone is required this will be agreed with you prior to inspection. The structure and fabric will not be opened up for further investigation. Those parts of the building and engineering services that are concealed, inaccessible or covered will not be inspected and confirmation that such parts are free from defects cannot be provided. Where we feel further investigation is merited, reference will be made in our report. Our services survey is based on a visual inspection and comment on the condition and the quality of the installation relating to normal good standards. We will specifically exclude tests relating to the performance of any heating, air conditioning or ventilation systems, pipe pressure tests, electrical or drainage tests. The omission of such tests might give risks to the fact that certain problems could exist which are not reflected in our report. No inspection or comment is made on the below ground drainage installations or service conduits unless instructed otherwise.

Occupied Buildings: Where buildings are occupied at the time of our inspection access to some areas may be restricted or denied although these areas will be noted in our report. Regardless of occupation, we will not lift fitted carpets, nor disturb any part of the fabric or fittings which are fixed or may cause damage.

Budget Costs: Where budget costs are included in our report, these costs are for guidance purposes only and will not be calculated from measured quantities but will be based on knowledge and experience of similar repair or replacement situations. Costs are inclusive of contractor's preliminaries but exclusive of all contingencies, professional fees and VAT. They will be based on current prices and no allowances will be made for inflation. Access costs for high level works will be included. There will be no allowances for loss or damage as a result of force majeure, terrorism, discovery or removal of any deleterious materials or out of hours working.

Specialist Sub-Consultants / Sub-Contractors: Where specialist consultants or contractors are engaged on your behalf. We may make reference to their findings in our report, but this should not be considered as a substitute for reading their report in its entirety, nor can we take responsibility for their conclusion.

Compliance with Legislation: In respect of planning permissions and building regulations consents we will review relevant documentation made available to us and liaise with your lawyers in this regard. If documentation is missing we will record this as a risk in our report, as should your lawyer. Our inspection will involve a review of the state of compliance with Statutory Requirements such as Workplace Regulations, Fire Regulations, Equality Act and other relevant matters. We will provide opinion and advise on these matters in our report. Please note that compliance with these Regulations often requires a more detailed specialist study and / or the preparation of a risk assessment. Such studies and risk assessments are beyond the scope of our report. Where appropriate we will make recommendations for further specialist surveys.

Weather conditions: Our inspection may be restricted by the prevailing weather conditions at the time of our inspection.

Communicable Disease – we shall not be liable in respect of any Claim, circumstance, loss or Defence Cost that arise as a result of, or is connected in any way, directly or indirectly with;

- a) A *Communicable Disease* or the fear or threat (whether actual or perceived) of a *Communicable Disease* regardless of any other cause or event contributing concurrently or in any other sequence thereto;
- b) any action taken to control, prevent, isolate, quarantine, suppress, mitigate or in any way relating to any actual or suspected outbreak of any *Communicable Disease* or the fear or threat (whether actual or perceived) of a *Communicable Disease*;
- c) instructions, orders, requests, restrictions or limitations given by any national or local government, regulatory or statutory body, health authority or organisation relating to any *Communicable Disease*.

A *Communicable Disease* means any disease which can be transmitted by means of any substance, medium or agent from any organism to another organism where:

- i. the substance, medium or agent includes, but is not limited to, a virus, bacterium, parasite or other organism or any variation thereof, whether deemed living or not, and
- ii. the method of transmission, whether direct or indirect, includes but is not limited to, airborne transmission, bodily fluid transmission, transmission from or to any surface or object, solid, liquid or gas or between organisms, and
- iii. the disease, substance or agent can cause or threaten damage to human health or human welfare or can cause or threaten damage to, deterioration of, loss of value of, marketability of or loss of use of property.

Deleterious and Hazardous Materials

Generally: Our report and survey excludes any investigation into the unsuitable use of deleterious or hazardous materials except in so far as such matters may come to our knowledge in the normal course of inspecting the property and state of repair. We will advise you if we consider there is a significant possibility that deleterious or hazardous materials exist at the property, although we will not undertake or commission specific inspections, laboratory testing or reports unless this possibility has been raised by us as a concern and further instructions received which in any event will be confined to the following: admixtures / aggregates in concrete, asbestos, brick slips, calcium silicate brickwork, high alumina cement, lead, urea formaldehyde foam, woodwool cement slab (used as permanent shuttering), aluminium composite panels, thin stone panels.

Many factors including location, use, design and quantity determine whether a material is deleterious or not and, therefore, the inclusion in the material in the above list does not, of itself, imply that it is deleterious.

Where composite cladding panels may be identified in our report we confirm that no intrusive testing will be undertaken to determine the type of insulation, classification of the insulating core or whether this is approved by the Loss Prevention Certification Board (LPCB) unless instructed otherwise.

Concrete: Where instructed to undertake a concrete investigation, our specialist report will be based on a visual examination of the concrete structure in sample test locations only. Whilst such test locations are chosen to be representative of the structure as a whole, we are not able to confirm that the structure is free from structural defects other than deleterious effect of HAC, chlorides and reinforcement corrosion durability.

Asbestos: Where instructed to undertake a specialist asbestos survey, we cannot guarantee that all asbestos containing materials will be identified, despite the best endeavours of our asbestos sub-consultant. Where instructed, every effort will be made to remove representative samples however it is possible that indiscriminate uses of asbestos may be present between sample locations of otherwise visually similar materials. An asbestos management survey is non-destructive and includes an inspection within accessible ceiling voids, above loose laid removable tiles, inside openable risers and cupboards, within accessible risers and behind removable casings.

Similarly access within lift shafts, live electrical equipment and mechanical plant may be restricted. A Refurbishment and Demolition asbestos survey is destructive and includes an inspection within accessible ceiling voids, above loose laid removable tiles, inside openable risers and cupboards, within accessible risers and behind removable casings. Representative areas of each element of building fabric will be intrusively opened up to inspect for the presence of ACM's behind built-in ducts, voids or similar enclosed or concealed areas within the building fabric. No intrusive work will be undertaken within the structural framework, concrete floors and masonry walls.

Mechanical and Electrical Surveys

Generally: Our survey and report is compiled under the brief to visually inspect and comment on the condition and the quality of the installation relating to normal good standards in the building services industry as dictated by CIBSE and IEE's current recommendations and standards without testing or dismantling of the plant. Where appropriate, we have provided an overview of the lift installations, which was carried out by the attending building services consultant.

Budget Costs: Any costs indicated within this report are based on our best assessment of the situation and the work involved at current prices and should not be taken as firm costs for the items of work detailed. To provide more accurate costs an investigation will be required in greater detail for individual items of the plant and systems, and may involve the employment of specialists where appropriate.

This overview provides a description of the lift services and general condition other than inspection of the lift shafts and associated equipment.

There are occasions when the building services will be inspected by a building surveyor rather than a mechanical and electrical consultant and we will advise within the fee quotation. In this case, if you require a survey by a mechanical and electrical consultant, you should confirm this prior to our inspection.

Concealed Parts: We have not inspected parts of the Engineering Services which are encased, covered up, or otherwise made inaccessible in a normal course of construction, alteration, or fitting out. We will not carry out any internal inspection of the plant/systems.

Design Analysis: No definitive calculations have been undertaken to determine the capacity or performance of the plant items, nor have performance tests been carried out on any of the systems or plant items. Design analysis of the systems has been undertaken using generally accepted design criteria both past and present, primarily to establish the principles of design. We have specifically excluded tests relating to the performance or efficiency of any heating, air conditioning, or ventilation systems, pipe pressure tests, electrical or drainage tests. The omission of such tests might give rise to the fact that certain problems could exist which are not reflected in this report. We would point out that during the course of our building services survey we did not carry out an inspection of the below ground services.

Deleterious & Hazardous Materials: Our report and survey excludes any investigation into structural engineering design, compliance with legislation relating to buildings, or the unsuitable use of high alumina cement or calcium chloride, calcium silicate brickwork, alkali-silicate reaction in concrete, cavity wall tie failure, radon gas seepage, woodwool slab permanent shuttering, asbestos or PCB's or other materials considered as deleterious in construction, except insofar as such matters may come to knowledge in the normal course of inspecting the materials and state of repair.

White Goods & Data: This report does not include an inspection of the white goods, catering and vending equipment, telecommunication, data or wireless systems installed within the property. We are unable to comment, advise or identify items that are reliant on day/date dependent embedded chips.

Pre Acquisition Survey

Compliance with Legislation: Our inspection will involve a general review of the state of compliance with Statutory Requirements such as the Building Regulations, Workplace Regulations, Fire Regulations, Equality Act and other relevant matters applicable within the relevant country. Please note that compliance with these Regulations often requires a more detailed specialist study and/ or the preparation of a risk assessment. Such studies and risk assessments are beyond the scope of our report.

Rights of Way / Support / Light

Where necessary we will comment on apparent rights of way / support or light which may be visible or suspected albeit our comments will be outline in nature and without any detailed investigations.

Environmental

Desk Based Risk Assessment: The risk assessment is dictated by the finite data on which it is based and is relevant only for the purpose of which the report is commissioned. If additional information or data becomes available which may affect the opinions expressed in our report, we reserve the right to review such information and, if warranted, to modify the risk assessment accordingly. We reserve the right to charge an additional fee for un-anticipated second opinion reviewing of previous reports.

The survey excludes intrusive opening up of the building fabric. Accordingly, an inspection is not undertaken behind built-in ducts, voids or similar enclosed or concealed areas within the structure and fabric.

Compliance with Legislation: The environmental risk assessment will be undertaken with due regard to Contaminated Land Guidance documents (available and relevant at the time of issuing our report) issued by (but not limited to) the Environmental Protection Act Part IIA 1990, Department for Environment, Food and Rural Affairs (DEFRA) and its predecessors, the Environment Agency (and its devolved equivalents), British Standards Institute (BSI), the Royal Institution of Chartered Surveyors (RICS) and the American Society for Testing and Materials (ASTM) Standard E 1527-00. No liability can be accepted for the effects of any future changes to such guidelines and legislation. In the event that guidance / legislation changes it may be necessary for Paragon to update or modify reports.

Content of Report: Our Phase I Environmental Audit will be based on a visual inspection of the site, a review of available historical and environmental setting records, consultations with site representatives, pertinent information provided from the client and regulatory consultations. No samples will be taken as part of this study.

Generic Risk Assessment: The risk assessment is dictated by the finite data on which it is based and is relevant only for the purpose of which the report is commissioned. If additional information or data becomes available which may affect the opinions expressed in our report, we reserve the right to review such information and, if warranted, to modify the risk assessment accordingly. We reserve the right to charge an additional fee for un-anticipated second opinion reviewing of previous reports.

The survey excludes intrusive opening up of the building fabric. Accordingly, an inspection is not undertaken behind built-in ducts, voids or similar enclosed or concealed areas within the structure and fabric. Where necessary we will comment on apparent rights of way / support or light which may be visible or suspected albeit our comments will be outline in nature and without any detailed investigations.

Phase 2 Site Investigation

Content of report: The content and findings of the report will be based on data obtained by employing site assessment methods and techniques, considered appropriate to the site as far as can be interpreted from desk based materials and a visual walkover of the site. Such techniques and methods are subject to limitations and constraints set out in the report. The findings and opinions are relevant at the time of writing, and should not be relied upon at a substantially later date as site conditions can change. For example, seasonal groundwater levels, natural degradation of contaminants etc. No liability is accepted for areas not covered by the investigation.

Risk Assessment: The opinions and findings conveyed via the report will be based on information obtained from a variety of sources as detailed by the report. The information should not be treated as exhaustive but is, in good faith, considered as representative as possible of the site conditions when considering constraints set out by the report. The risk assessment will be completed in line with current industry practices but is not a guarantee that the site is free of hazardous conditions. The risk assessment is completed in line with the relevant land use agreed for the site and the time of completing the works. Changes to site conditions or land use may require a reassessment.

Unforeseen Contamination: Where Paragon is responsible for directing the number and location of exploratory holes, it shall exercise all the reasonable skill, care and diligence to be expected of a properly qualified and competent member of the Consultant's profession experienced in performing such services, taking into account site conditions, and available knowledge, as well as access,

budgetary and scheduling constraints. Subject to having complied with the foregoing: (1) no liability can be accepted for the conditions that have not been revealed by the exploratory hole locations, or those which occur between each location and (2) whilst every effort will be made to interpolate the conditions between exploratory locations, such information is only indicative and liability cannot be accepted for its accuracy. By their nature, it is generally the case that exploratory holes provide a relatively small and localised snapshot of the ground conditions relative to the size of the site.

Buried Services: Whilst reasonable efforts will be taken to avoid buried services, we accept no liability for damage to services which have not been accurately identified in advance of site works.

Flooding: Our commentary is only based on the publicly available mapping available via the EA, NRW or SEPA at the time of writing and we cannot accept any liability where the information is updated following the issue of our report.

Dilapidations

Listed below are the limitations specifically applying to our dilapidations work and must be read in conjunction with our other Standard Limitations set out above.

Generally: We will assume unless otherwise requested that we are engaged as an advisor to prepare or comment on a schedule or claim which is distinct from an instruction to act as an expert witness. However, in discharging the advisory role it is always necessary for us to take account of considerations relating to expert witnesses as set out in the current Practice Statement and Guidance Note for Surveyors Acting as Expert Witnesses by the Royal Institute of Chartered Surveyors, a copy of which can be provided on request. This states that the primary function, and duty, of an expert witness is to assist the court on matters within their expertise.

Ongoing Advice: Our dilapidations advice aims to provide you with an informed opinion as to the anticipated level of liability/claim. Changes in case law, statute and the passage of time may affect the accuracy of our advice; it is therefore important that our advice is reviewed at regular intervals and, in particular, prior to the expiry of the lease.

Documentation Provided: Our assessments can only be as accurate as the information provided to us; it is therefore important that the most complete set of documentation possible is provided in order for the best advice to be given. We cannot take any responsibility for distorted findings resulting from deficient, incorrect or incomplete information.

Estimated Settlement: When an estimate of settlement is provided at any time prior to concluding the claim, this is for guidance only and should never be taken as a definitive evaluation of the likely damages which may fall due.

Final Settlement: Settlements can be limited by S.18(1) of the Landlord & Tenant Act 1927 and the common law principles to the diminution in the value of the Landlord's reversion, regardless of the cost of works and other heads of claim. We will advise you if we consider that a formal valuation (commonly known as a Section 18 valuation) is necessary.

A claim based on the cost of the works may also be capped or even extinguished if it can be shown that the premises are to be altered or demolished after the expiry of the lease. Landlords should advise us if this is the case. Again, we will advise you if we consider that a

Section 18 valuation is necessary. Where no formal release is provided by a Landlord we reserve the right to charge on a time expended basis.

Solicitors: In some cases it may be necessary to liaise with a solicitor on matters of strict legal interpretation. In the event of litigation, our communications with surveyors and other experts, including solicitors, may not be privileged.

Heads of Claim

Loss of Rent, Rates, Service Charge, etc.: For the purposes of the calculation of a loss of rent (and where applicable, service charge) claim we will provide an assessment of the period that it is likely to take to procure and complete works identified in the Schedule of Dilapidations. However, the applicability of such a claim will depend on market conditions prevailing at the end of the term and require initial input from your appointed letting agents shortly before lease expiry. Unless specifically agreed or stated within the lease, we will not include finance charges, loss of rates and other similar items in our assessments/claims.

Fees: We will include an allowance for legal fees only for the service of Schedules of Dilapidations in our assessments and claims. Surveyors' fees for the preparation and service of schedules will be included but other professionals' fees (such as building services or structural engineers) will not be included unless otherwise stated. All professional fees included will be estimates.

VAT: VAT may form part of a claim and is subject to the VAT status of the property and parties to the lease. The total claim (of which VAT may form part) is a damages payment that Customs and Excise do not deem a taxable supply. Invoices are not usually issued by landlords to tenants for this reason.

Contamination: We will include in our assessment any obvious contamination issues but we will not undertake any tests or investigation of current or previous uses of the site or adjoining land. We will advise you where we consider a need for specialist advice.

Energy Performance Certificates

The appointment of Paragon Building Consultancy Limited is subject to the Standard Limitations set out above. Listed below are some specific limitations relating to the provision of Energy Performance Certificates (EPCs).

Generally: This work is usually undertaken in three stages being:

1. Site inspection and research;
2. Data inputting and Calculating the Certificate; and
3. Lodging the certificate and reporting to the client.

We will initially determine the level of complexity of the building from the information provided by the client. Should it be determined during the site inspection that the complexity of the building and/or its services makes the standard assessment methodology inappropriate, this will be drawn to the attention of the client and a revised proposal will be submitted for sub-consulting the assessment to enable Dynamic Simulation Modelling (DSM) to be carried out.

Fees: Our fee quote is based on the assumption that the building can be inspected in one visit with unrestricted access to all areas. If we find that access is restricted to some parts of the building and that a return visit is required we will invoice all additional time on a time charge basis.

Where keys are held remotely from the property we will charge an additional fee on a time charge basis to cover our time in collecting and returning the keys. Where an instruction is made on the basis that plans are available the following applies:

- Plans must be to scale.
- Plans must accurately show the current layout of the premises.
- Plans must be provided at the time of appointment or before inspection.

Where plans are not immediately available and we are expected to recover them from other parties an additional charge may be made to cover our time in this regard.

Site Inspection: The nature of a building's construction will not always be obvious from a visual inspection alone. Where sectional details are not available we will use the inference values provided in iSBEM. Where these are poor and possibly have an effect on the banding/rating of the property we may advise the client to consider opening up elements of the property so that more accurate construction details can be obtained. Opening up works will fall outside the initial fee agreement and we reserve the right to invoice our time for this separately.

Lifespan/Carbon Checker: We will generate the EPCs using Lifespan. This system is a software application tool that provides an interface to enable the user to enter data into DCLG's SBEM (Simplified Building Energy Model). SBEM is at the heart of all government approved interface tools and whilst it has been passed for use, and Lifespan is an accredited software tool, there are inherent built in faults with the software that may affect the final rating. Although some tests have been undertaken to establish the accuracy of this software. We accept no responsibility for the software's accuracy.

Reporting and Advice: The EPC generates a Recommendations Report within which advice is given for the building owner to upgrade the building's efficiency performance. The advice is generic and in some cases is not considered to be relevant. Where we consider the advice to be poor, we will tailor the report to more accurately reflect the requirements of the building. The recommendations given in the report are not mandatory, so where a building owner implements improvement works based on the recommendations we would expect them to discuss the proposals in more detail before any expense is incurred.

Documentation Provided: We cannot take responsibility for the accuracy of any information provided by others for the purpose of carrying out the assessments. Similarly we cannot take responsibility where information to be provided is missing or its provision is delayed and that information conflicts with our assessment. Where such documents become available we recommend that copies are forwarded to us immediately in order that any advice provided can be refined.

Bank or Fund Monitoring

The appointment of Paragon Building Consultancy Limited is subject to the Standard Limitations set out above. Listed below are some specific limitations relating to the provision of bank or fund monitoring services.

Our report is based upon discussions with the borrower (being the person to whom our client, a funder, is lending money), as well as reports, records and data provided by the borrower or on their behalf ("Information"). We will use our professional judgement and experience to evaluate and interrogate the Information, however we are not auditing the Information and we cannot guarantee that it is accurate and complete in all respects. It is the borrower's duty to ensure that the Information is accurate and complete, and Paragon shall not be liable for any errors or omissions in the Information, or for losses arising as a result of such errors or omissions.