

London Resort

Water environment - Interim monitoring report

0042936-BHE-XX-XX-RP-YG-0012

0042936

6 July 2021

Revision P01

Revision	Description	Issued by	Date	Checked
P01	Issue	NS	06/07/2021	HM



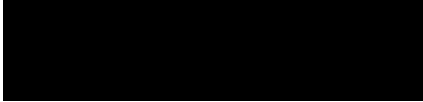
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1 Introduction

1.1 General

This report provides a combined assessment of the available groundwater, surface water and sediment data for the London Resort site. All of the data has been obtained from the Kent Project Site, the area of land located to the south of the River Thames (see Figure 1-1). Investigation and monitoring of the Essex Project Site will be undertaken in due course. This initial report summarises and assesses the data obtained from previous investigation / monitoring undertaken by Atkins in 2015 and the first nine rounds (September 2020 to May 2021) of the current programme being undertaken in accordance with commitments made by LRCH to the Environment Agency. This year-long programme comprises monthly groundwater and surface water sampling and quarterly sediment sampling (September 2020 to August 2021) with associated laboratory analysis. A Final report will be prepared upon completion of the monitoring programme.

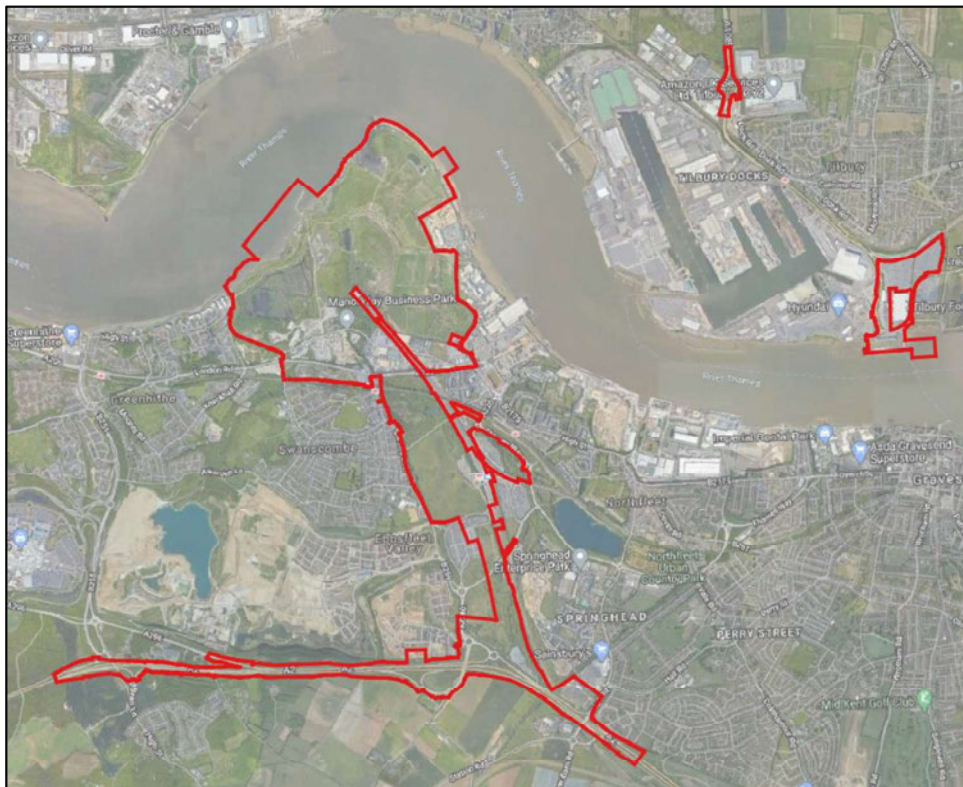


Figure 1-1 – Red line showing London Resort DCO Order Limits - Kent Project Site (Google Maps, 2021).

1.2 Report structure

Section 1.3 below describes the available chemical data for groundwater, surface water and sediment across the Kent Project Site. Chapter 2 then sets out the approach to the assessment of groundwater data, before presenting a summary and assessment of that data. Chapter 3 and Chapter 4 similarly present the summary and assessment of the chemical data for surface waters and sediments, respectively. The chemical data obtained by Atkins in 2015 are provided in Appendix A and the data obtained in 2020 to 2021 in Appendix B. The screening spreadsheets for

groundwaters, surface waters and sediments, used to facilitate the assessments presented in this report, are included as Appendix C, Appendix D and Appendix E, respectively.

1.3 Available data

1.3.1 Groundwater data

Atkins 2015 data

Data from a programme of ground investigation (including groundwater monitoring) undertaken by Atkins in 2015 has been made available in electronic format to Buro Happold [1, 2]. The investigation works included the construction of borehole / window sample holes which were installed with monitoring wells. A total of 16 wells were constructed to screen the various groundwater bodies / aquifers (5 screening perched water / leachate, 2 screening River Terrace Deposits, 9 screening chalk). Four rounds of groundwater monitoring and sampling were undertaken:

- Round 1 – 14/07/2015, 15/07/2015 and 20/07/2015
- Round 2 – 28/07/2015 and 29/07/2015
- Round 3 – 12/08/2015, 13/08/2015 and 14/08/2015
- Round 4 – 26/08/2015 and 27/08/2015

2020 to 2021 data

During July 2020, engineers from Buro Happold visited the Kent Project Site to locate the monitoring wells and establish their functionality. All but two were located and confirmed to be functional. Accordingly, a year-long programme of monthly monitoring / sampling from these wells is currently underway. The sampling is being undertaken by specialist technicians from Enitial with the chemical analyses being carried out by i2 Analytical. Data from the first nine rounds are currently available:

- Round 1 – 30/09/2020, 02/10/2020 and 13/10/2020
- Round 2 – 20/10/2020, 21/10/2020, 22/10/2020 and 23/10/2020
- Round 3 – 16/11/2020, 17/11/2020 and 19/11/2020
- Round 4 – 08/12/2020, 09/12/2020, 10/12/2020 and 11/12/2020
- Round 5 – 25/01/2021, 26/01/2021, 27/01/2021 and 28/01/2021
- Round 6 – 19/02/2021, 22/02/2021, 23/02/2021 and 24/02/2021
- Round 7 – 29/03/2021, 30/03/2021 and 31/03/2021
- Round 8 – 26/04/2021, 27/04/2021, 28/04/2021 and 29/04/2021
- Round 9 – 10/05/2021, 11/05/2021, 12/05/2021 and 13/05/2021.

Note that two groundwater wells (BH706 and BH707) were lost / decommissioned in January 2021, as these fell within a Balfour Beatty works area associated with upgrades to the A2 road.

1.3.2 Surface water data

No surface water sampling was undertaken in 2015. A year-long programme of monthly surface water sampling is currently underway being carried out in conjunction with the groundwater sampling. Buro Happold initially identified 16 potential sampling points (SW001 to SW016) from the various surface water bodies and catchments present on the Kent Project Site. To date, sampling has been undertaken by Enitial at 10 of these locations (SW002, SW004, SW005, SW007, SW009, SW012, SW013, SW014, SW015, SW016). Note that not all of these locations have been sampled on all occasions, due to access or health and safety constraints (flooding, overgrown vegetation). The remaining locations

have also not been sampled for similar reasons (access constraints, health and safety constraints or the locations being dry). Data from the first nine rounds are currently available:

- Round 1 – 30/09/2020, 02/10/2020 and 13/10/2020
- Round 2 – 20/10/2020, 21/10/2020, 22/10/2020 and 23/10/2020
- Round 3 – 16/11/2020, 17/11/2020 and 19/11/2020
- Round 4 – 08/12/2020, 09/12/2020, 10/12/2020 and 11/12/2020
- Round 5 – 25/01/2021, 26/01/2021, 27/01/2021 and 28/01/2021
- Round 6 – 19/02/2021, 22/02/2021, 23/02/2021 and 24/02/2021
- Round 7 – 29/03/2021, 30/03/2021 and 31/03/2021
- Round 8 – 26/04/2021, 27/04/2021, 28/04/2021 and 29/04/2021
- Round 9 – 10/05/2021, 11/05/2021, 12/05/2021 and 13/05/2021.

1.3.3 Sediment data

Sediment samples are being obtained by Enitial quarterly, corresponding with the surface water sampling points referred to above (i.e. SW001 to SW016). To date, data are available for ten sampling points (SW002, SW004, SW005, SW007, SW009, SW012, SW013, SW014 and SW016). Three rounds of sediment data are available:

- Round 1 – 13/10/2020 and 30/10/2020
- Round 4 - 08/12/2020 and 11/12/2020
- Round 8 - 26/04/2021 and 29/04/2021.

Not all of the sampling locations listed above were sampled on all occasions. In particular, note that for Round 4, data were not obtained for all corresponding surface water samples. This was due to contractor error i.e. a cool box was not collected and some samples were lost.

2 Groundwater assessment

2.1 Sampling locations and approach to assessment

The locations of the groundwater wells sampled by Atkins in 2015 and Enitial in 2020 are shown on Figure 2-1. Note that BH703 and BH708 were not accessible (or sampled) by Enitial during 2020. Also, locations BH706 and BH707 were decommissioned by Balfour Beatty in January 2021 when the locations were integrated into their construction works area. Previous reports have split the Kent Project Site into nine zones (Zone 1 to Zone 9). To facilitate assessment here, those same zones have been adopted and the groundwater data have been subdivided by these zones (i.e. Zone 1, Zone 2, Zone 5 and Zone 7). The data are then further subdivided by screened strata / groundwater body (i.e. perched groundwater / leachate, River Terrace Deposits and Chalk). Comparison is also made between the data from 2015 and 2020. The adopted zoning of the Kent Project Site and the groundwater body screened by each of the monitoring wells is shown by Figure 2-1.

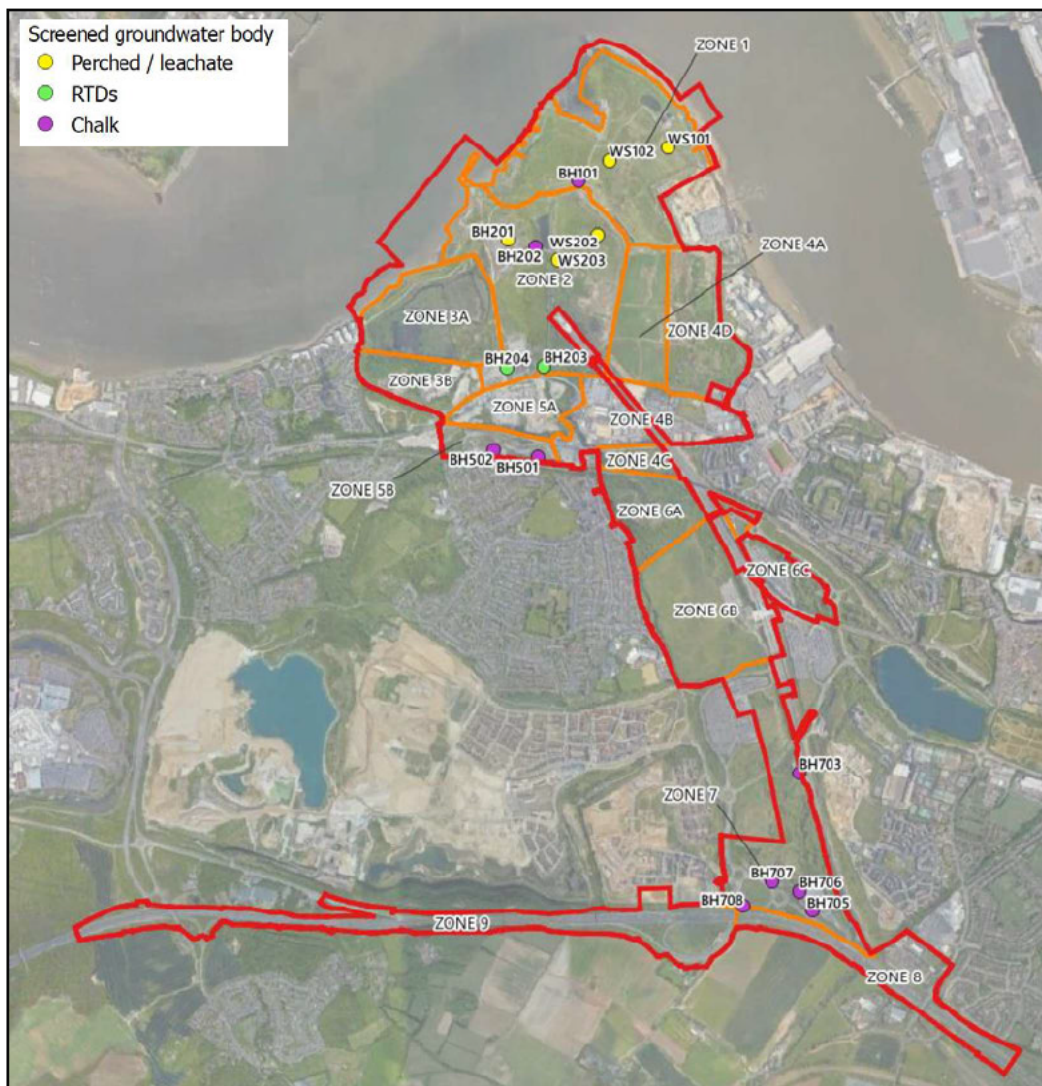


Figure 2-1 – Location of groundwater monitoring wells within the Kent Project Site. Zoning of site and screened groundwater body also shown.

2.2 Chemical testing suites

The chemical testing suites adopted by Atkins in 2015 and Buro Happold in 2020/21 are summarised in Table 2-1 below. All samples were analysed for all the determinands listed, except for total phenol which was integrated into the Buro Happold testing suite from Round 4 onwards.

Table 2-1 – Chemical testing suites for groundwater

Monitoring programme	Chemical testing suite
Atkins 2015	<p>General inorganics - pH, electrical conductivity, cyanide (total, complex, free), sulphate (as SO₄), sulphide, chloride, ammoniacal nitrogen, nitrate, nitrite, chemical oxygen demand, biochemical oxygen demand, total oxidised nitrogen.</p> <p>Organics – total phenol, USEPA 16 PAHS, TPH CWG, BTEX including MTBE, VOCs and SVOCs.</p> <p>Metals and metalloids – CLEA metals. Chromium (VI), iron, mercury, molybdenum, calcium, magnesium, potassium, phosphorous</p>
Buro Happold 2020/21	<p>General inorganics – pH, electrical conductivity, cyanide (total), sulphate (as SO₄), chloride, ammonia, ammonium, nitrate, nitrite, total nitrogen, dissolved oxygen, hardness, total dissolved solids.</p> <p>Organics – total phenols, USEPA 16 PAHs, TPH CWG, BTEX including MTBE.</p> <p>Metals and metalloids – CLEA metals, mercury</p>

2.3 Screening criteria

Surface waters (River Thames, River Ebbsfleet) as well as aquifers beneath the site (Secondary Aquifer in superficial deposits and Principal Aquifer in Chalk) are potential receptors to contamination within groundwater. For the determinands for which screening criteria are available, the data have therefore been assessed with respect to the Freshwater Environmental Quality Standards (EQSs) – both the Annual Average (AA) and Maximum Allowable Concentrations (MAC) – and UK DWS screening criteria, unless otherwise stated.

2.4 Zone 1

2.4.1 Perched water / leachate

Inorganic determinands

Samples of perched water / leachate within Zone 1 were obtained from two locations (WS101 and WS102). The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-2 and in the text below.

- Alkaline pH (>11.5) consistently recorded at WS102 during 2015 and 2020. Near neutral pH recorded at WS101.
- Half of samples in both 2015 and 2020/21 exceeded the UK DWS for nitrite as NO₂⁻.
- All concentrations of copper exceeded the EQS AA. This was by about 30 times in 2015 and 40 times in 2020/21. All concentrations were below the UK DWS.
- Most samples recorded concentrations of selenium above the UK DWS. The mean concentration was about 5 times that value in 2015 and nine times in 2021/21.
- The majority of samples exceeded the EQS AA for chromium, on average by about four times in 2015 and nine times in 2020/21. There were occasional exceedances of the less conservative UK DWS, but mean concentrations were below this value.
- Concentrations of cadmium exceeded the EQS AA in about a third of samples in both 2015 and 2020/21, with mean concentrations about the same. All concentrations were below the EQS MAC and UK DWS.
- Most concentrations of cyanide in both 2015 and 2020/21 were below the laboratory limits of detection. Detectable concentrations were recorded on two occasions in 2020/21, all marginally exceeding the EQS AA and MAC but below the UK DWS.
- Some exceedances of screening criteria were recorded for arsenic, lead and nickel in both 2015 and 2020/21, but appear to decrease over time. Mean values were not highly elevated.
- Occasional exceedances of screening criteria were recorded for zinc and mercury in 2015 and 2020/21, with no clear trend in concentrations over time. Mean concentrations were at or below screening values.
- All concentrations of barium, beryllium, boron and vanadium were below screening values or at / near laboratory limits of detection.

Organic determinands

Samples of perched water / leachate within Zone 1 were obtained from two locations (WS101 and WS102). The data for organic determinands from 2015 and 2020/21 are summarised in Table 2-3 and in the text below.

- All concentrations of PAHs and BTEX determinands below laboratory limits of detection.
- Concentrations above detection limits of aliphatic TPH fractions >C12 recorded at WS101 and WS102 during 2015 but not during 2021/21.
- About a third of samples recorded concentrations of total phenols above screening criteria. Concentrations appear to reduce between 2015 and 2021/21.

2.4.2 Chalk

Inorganic determinands

Samples from the chalk aquifer within Zone 1 were obtained from BH101 only. The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-4 and in the text below.

- Near neutral pH recorded in all samples.
- Most concentrations of inorganic determinands were below screening criteria.
- Copper exceeded the EQS AA in most samples. The mean was about three times this value in 2015 and 75 times in 2021/21. All concentrations were below the UK DWS.

- Concentrations of arsenic and boron have generally increased between 2015 and 2021/21. No exceedances were recorded in 2015 but most exceeded the UK DWS in 2020/21.
- Concentrations of chromium may be showing an increasing trend between 2015 and 2021/21. All concentrations were below screening criteria in 2015. The mean concentration in 2021/21 marginally exceeds the EQS AA but is below the UK DWS.
- Occasional exceedances of screening criteria have been recorded for mercury, lead and zinc in 2015 and / or 2020/21. Mean concentrations are below screening criteria or not highly elevated.
- Some samples exceeded screening criteria for nickel and selenium during 2015 and 2020/21. Mean values have decreased over time.

Organic determinands

Samples from the chalk aquifer within Zone 1 were obtained from BH101 only. The data for inorganic determinands from 2015 and 2020 are summarised in Table 2-5.

- All concentrations of PAHs, TPH fractions and BTEX determinands in all samples were below laboratory limits of detection.
- Total phenols were detected in one sample in 2015, at a concentration about 15 times the EQS AA and 2 times the EQS MAC. No detectable concentrations have been recorded so far in 2020/21.

Table 2-2 - Summary of data for inorganic determinands within Zone 1 for samples obtained from installations screening perched water / leachate. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]					[mean]	[no. of exceedances]		
pH	8	-	-	6.5 – 9.0 [4]	7.7 – 12.8 [10.5]	18	-	-	6.5 – 9.0 [9]	7.7 – 12.8 [10.4]
Conductivity mS/cm	8	-	-	2.5 [8]	17 – 120 [66.5]	18	-	-	2.5 [18]	5.3 – 110 [42.8]
Nitrate, NO ₃ ⁻	8	-	-	50000 [0]	580 – 6020 [2741]	18	-	-	50000 [0]	1920 – 9860 [3850]
Nitrite, NO ₂ ⁻	8	-	-	500 [4]	36 – 970 [478]	18	-	-	500 [9]	<5 – 1400 [570]
Cyanide	8	1 [0]	5 [0]	50 [0]	All <10	18	1 [2]	5 [2]	50 [0]	<10 – 22 [10.8]
Mercury	8	-	0.07 [3]	1 [1]	<0.05-1.44 [0.34]	18	-	0.07 [2]	1 [0]	<0.05 – 0.1 [0.05]
Arsenic	8	50 [1]	-	10 [6]	5.6 – 55.3 [27.4]	18	50 [0]	-	10 [4]	0.51 – 21 [8.1]
Barium	8	-	-	700* [0]	3.7 – 43 [22.1]	18	-	-	700* [0]	2.3 – 60 [27.3]
Beryllium	8	-	-	-	All <0.1 to 0.1	18	-	-	-	All <0.1 to <0.2
Boron	8	7000* [0]	-	1000 [0]	11 – 920 [441]	18	7000* [0]	-	1000 [0]	15 – 930 [414]
Cadmium	8	0.08 [3]	0.45 [0]	5 [0]	0.04 – 1.8 [0.34]	18	0.08 [6]	0.45 [0]	5 [0]	<0.02 – 0.4 [0.1]
Chromium	8	4.7 [8]	-	50 [1]	7.4 – 55 [20.2]	18	4.7 [17]	-	50 [7]	0.2 – 110 [43]
Copper	8	1 [8]	-	2000 [0]	1.8 – 66 [31.5]	16	1 [16]	-	2000 [0]	4.7 – 160 [43.5]
Lead	8	1.2 [7]	14 [2]	10 [3]	<0.2 – 35 [12.3]	18	1.2 [15]	14 [0]	10 [0]	0.3 – 7.8 [4.8]
Nickel	8	4 [5]	34 [0]	20 [1]	<0.5 – 26 [8.5]	18	4 [5]	34 [0]	20 [0]	<0.5 – 12 [3.6]
Selenium	8	-	-	10 [6]	<0.6 – 120 [47.4]	14	-	-	10 [12]	<4 – 390 [99.9]
Vanadium	8	100* [0]	-	-	2.2 – 80 [43.4]	6	100* [0]	-	-	0.3 – 93 [21.5]
Zinc	8	10.9 [1]	-	-	1.8 – 20 [6.4]	6	10.9 [3]	-	-	<0.5 – 16 [6.5]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-3 - Summary of data for organic determinands within Zone 1 for samples obtained from installations screening perched water / leachate. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	8	2 [0]	130 [0]	1 [0]	All <0.01	18	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Acenaphthylene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Fluoranthene	8	0.0063	0.12 [0]	-	All <0.01	18	0.0063	0.12 [0]	-	All <0.01
Anthracene	8	0.1 [0]	0.1 [0]	-	All <0.01	18	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Fluorene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Chrysene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Pyrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(a)anthracene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(b)fluoranthene	8	-	0.017 [0]	-	All <0.01	18	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	8	-	0.017 [0]	-	All <0.01	18	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	8	0.00017	0.27 [0]	0.01 [0]	All <0.01	18	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(g,h,i)perylene	8	-	0.0082	-	All <0.01	18	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
MTBE	8	-	-	-	All <1	18	-	-	-	All <1
Benzene	8	10 [0]	50 [0]	1 [0]	All <1	18	10 [0]	50 [0]	1 [0]	All <1
Toluene	8	74 [0]	380 [0]	-	All <1	18	74 [0]	380 [0]	-	All <1
Ethylbenzene	8	-	-	-	All <1	18	-	-	-	All <1
m,p-xylene	8	-	-	-	All <1	18	-	-	-	All <1
o-xylene	8	-	-	-	All <1	18	-	-	-	All <1
Aliphatics >C5-C6	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C6-C8	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C8-C10	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C10-C12	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C12-C16	8	-	-	10* [1]	<10 – 12	18	-	-	10* [0]	All <10
Aliphatics >C16-C21	8	-	-	10* [2]	<10 - 520	18	-	-	10* [0]	All <10
Aliphatics >C21-C35	8	-	-	10* [2]	<10-1300	18	-	-	10* [0]	All <10
Total Ali >C12-C35	8	-	-	10*	<10-1800	18	-	-	10* [0]	All <10
Aromatics >EC5-EC7	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC7-EC8	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC8-EC10	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC10-EC12	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC12-EC16	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC16-EC21	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC21-EC35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Total Aro >EC12-EC35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Phenols	8	7.7 [2]	46 [2]	-	<10-1000	8	7.7 [3]	46 [2]	-	<10 - 91

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-4 - Summary of data for inorganic determinands within Zone 1 for samples obtained from the chalk aquifer. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
pH	4	-	-	6.5 – 9.0 [0]	6.7 – 7.2 [7.0]	9	-	-	6.5 – 9.0 [0]	7.2 – 8.2 [7.3]
Conductivity mS/cm	4	-	-	2.5 [4]	6 – 18 [13.5]	9	-	-	2.5 [9]	8.2 – 24 [14.8]
Nitrate, NO ₃ ⁻	4	-	-	50000 [0]	420 – 3250 [1490]	9	-	-	50000 [0]	100 – 1760 [810]
Nitrite, NO ₂ ⁻	4	-	-	500 [0]	<5 – 9.9 [4.3]	9	-	-	500 [0]	<5 – 48 [15.2]
Cyanide	4	1 [0]	5 [0]	50 [0]	All <10	9	1 [0]	5 [0]	50 [0]	All <10
Mercury	4	-	0.07 [2]	1 [0]	<0.05 – 0.94 [0.43]	9	-	0.07 [0]	1 [0]	<0.05 – <0.5
Arsenic	4	50 [0]	-	10 [0]	0.61 – 5.57 [1.9]	9	50 [2]	-	10 [8]	4.6 – 58.2 [32.4]
Barium	4	-	-	700* [0]	110 – 130 [123]	9	-	-	700* [0]	81 – 150 [123.3]
Beryllium	4	-	-	-	All <0.1	9	-	-	-	All <0.1
Boron	4	7000* [0]	-	1000 [0]	220 – 940 [640]	9	7000* [0]	-	1000 [8]	1290
Cadmium	4	0.08 [0]	0.45 [0]	5 [0]	All <0.02	9	0.08 [0]	0.45 [0]	5 [0]	All <0.02 – 0.02
Chromium	4	4.7 [0]	-	50 [0]	<0.2 – 1.2 [0.45]	9	4.7 [6]	-	50 [0]	0.6 – 9.5 [6.1]
Copper	4	1 [3]	-	2000 [0]	1.5 – 4.3 [2.7]	9	1 [8]	-	2000 [0]	<0.7 – 160 [75]
Lead	4	1.2 [0]	14 [0]	10 [0]	<0.2 – 0.3 [0.25]	9	1.2 [1]	14 [0]	10 [0]	<0.2 – 4.7 [0.7]
Nickel	4	4 [4]	34 [0]	20 [1]	6.8 – 21 [13.7]	9	4 [9]	34 [0]	20 [0]	4.7 – 11 [7.4]
Selenium	4	-	-	10 [4]	41 – 94 [67.8]	9	-	-	10 [5]	<4 – 57 [29.7]
Vanadium	4	100* [0]	-	-	0.3 – 0.9 [0.7]	9	100* [0]	-	-	<1.7 – 49 [17.5]
Zinc	4	10.9 [0]	-	-	1.9 – 2.9	9	10.9 [2]	-	-	3.8 – 15 [8.6]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-5 - Summary of data for organic determinands within Zone 1 for samples obtained from the chalk aquifer. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	4	2 [0]	130 [0]	1 [0]	All <0.01	9	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Acenaphthylene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Fluoranthene	4	0.0063	0.12 [0]	-	All <0.01	9	0.0063	0.12 [0]	-	All <0.01
Anthracene	4	0.1 [0]	0.1 [0]	-	All <0.01	9	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Fluorene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Chrysene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Pyrene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Benzo(a)anthracene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Benzo(b)fluoranthene	4	-	0.017 [0]	-	All <0.01	9	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	4	-	0.017 [0]	-	All <0.01	9	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	4	0.00017	0.27 [0]	0.01 [0]	All <0.01	9	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
Benzo(g,h,i)perylene	4	-	0.0082	-	All <0.01	9	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	4	-	-	-	All <0.01	9	-	-	-	All <0.01
MTBE	4	-	-	-	All <1	9	-	-	-	All <1
Benzene	4	10 [0]	50 [0]	1 [0]	All <1	9	10 [0]	50 [0]	1 [0]	All <1
Toluene	4	74 [0]	380 [0]	-	All <1	9	74 [0]	380 [0]	-	All <1
Ethylbenzene	4	-	-	-	All <1	9	-	-	-	All <1
m,p-xylene	4	-	-	-	All <1	9	-	-	-	All <1
o-xylene	4	-	-	-	All <1	9	-	-	-	All <1
Aliphatics >C5-C6	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aliphatics >C6-C8	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aliphatics >C8-C10	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aliphatics >C10-C12	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aliphatics >C12-C16	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aliphatics >C16-C21	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aliphatics >C21-C35	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Total Ali >C12-C35	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC5-EC7	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aromatics >EC7-EC8	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aromatics >EC8-EC10	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aromatics >EC10-EC12	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC12-EC16	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC16-EC21	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC21-EC35	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Total Aro >EC12-EC35	4	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Phenols	4	7.7 [1]	46 [1]	-	<10-110	4	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

2.5 Zone 2

2.5.1 Perched water / leachate

Inorganic determinands

Samples of perched water / leachate within Zone 2 were obtained from three locations (BH201, WS202, WS203). The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-6 and in the text below.

- Alkaline pH was recorded in all samples.
- Elevated electrical conductivity was recorded in all samples in 2015 and 2020/21. Mean concentrations during both monitoring periods are comparable.
- Concentrations of barium, beryllium and boron were below screening criteria in all samples.
- Exceedances of screening criteria were recorded for zinc, cadmium, mercury, cyanide and vanadium. Mean concentrations were below these criteria or not highly elevated.
- The majority of samples in 2015 and 2020/21 exceeded the UK DWS for selenium. In 2015, the mean concentration was about 27 times this value and in 2021/21 it was 20 times.
- Most samples exceeded all the available screening criteria for nickel. In 2015, the mean concentration was 10 times the EQS MAC (least conservative value) and in 2020/21 it was six times.
- All samples exceeded the EQS AA for copper but were below the UK DWS. The mean concentration in 2015 was 19 times the EQS AA and in 2020/21 it was 33 times.
- Most concentrations of arsenic were above the UK DWS in 2015 and 2020/21, with exceedances of the EQS AA less frequent. There has been no significant change in the mean concentration over this period.
- Occasional exceedances of the EQS AA and UK DWS were recorded for chromium. The mean concentration was about 100 times the EQS AA in 2015 but about three times in 2020/21.

Organic determinands

Samples of perched water / leachate within Zone 2 were obtained from three locations (BH201, WS202, WS203). The data for organic determinands from 2015 and 2020/21 are summarised in Table 2-7 and in the text below.

- All concentrations of PAHs and BTEX determinands below laboratory limits of detection.
- Concentrations of aliphatic TPH fractions >C12 occasionally recorded above limits of detection during 2015 and 2020.
- Total phenols were detected in half of samples during 2015 and most samples during 2021/21. Mean concentration in 2015 was 15 times the EQS MAC and in 2020/21 it was 19 times.

2.5.2 River Terrace Deposits

Inorganic determinands

Samples from River Terrace Deposits within Zone 2 were obtained from two locations (BH203 and BH204). The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-8 and in the text below.

- Neutral pH recorded in all samples.
- Concentrations of most inorganic determinands were below screening criteria.
- About half of samples in 2015 and 2020/21 exceeded screening criteria for electrical conductivity. No significant change in mean concentrations between 2015 and 2020/21.
- Some exceedances of screening criteria were recorded for nitrite as NO_2^- and mercury in 2015 but all concentrations were below those values in 2020/21.
- Occasional exceedances of screening criteria were recorded for arsenic, chromium, nickel, selenium and zinc in 2015 and / or 2020/21, but mean concentrations were the screening criteria or not highly elevated.
- Concentrations of copper exceeded the EQS AA in all samples. The mean concentration was five times that value in 2015 and eight times in 2020/21. No exceedances of the UK DWS were recorded.

Organic determinands

Samples from River Terrace Deposits within Zone 2 were obtained from two locations (BH203 and BH204). The data for organic determinands from 2015 and 2020/21 are summarised in Table 2-9. All concentrations of organic determinands were below laboratory limits of detection during both monitoring programmes.

2.5.3 Chalk

Inorganic determinands

Samples from installations screening Chalk within Zone 2 were obtained from BH202 only. The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-10 and in the text below.

- Neutral pH recorded in all samples.
- Most concentrations of inorganic determinands are below relevant screening criteria.
- Most samples in 2015 and 2020/21 exceeded the UK DWS for electrical conductivity. The recorded values during the two monitoring programmes are comparable.
- Occasional exceedances of screening criteria were recorded for nitrite as NO_2^- and mercury in 2015, but all concentrations were below those values in 2020/21.
- All concentrations of copper exceeded the EQS AA but were below the UK DWS. The mean concentration was five times the EQS AA in 2015 and 68 times that value in 2020/21.
- Occasional exceedances of screening criteria have been recorded for lead, but the mean concentrations were below all of those criteria.
- Concentrations of arsenic, chromium, selenium, nickel and zinc above screening criteria were frequently recorded in 2020/21, but the mean values are not highly elevated.

Organic determinands

Samples from installations screening Chalk within Zone 2 were obtained from BH202 only. The data for organic determinands from 2015 and 2020/21 are summarised in Table 2-11 and in the text below.

- All concentrations of BTEX determinands and PAHs and total phenols were below laboratory limits of detection in 2015 and 2020/21.
- Concentration of aliphatic TPH fractions >C16 were recorded above detection limits in one sample in 2015. All other TPH fractions were below laboratory limits of detection in all samples in 2015 and 2020/21.

Table 2-6 - Summary of data for inorganic determinands within Zone 2 for samples obtained from installations screening perched water / leachate. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
pH	12	-	-	6.5 – 9.0 [12]	11.3-13.3 [12.5]	27	-	-	6.5 – 9.0 [27]	10.6-13.1 [12.6]
Conductivity mS/cm	12	-	-	2.5 [12]	2.8-93 [52.3]	27	-	-	2.5 [27]	3.7 – 82 [36.9]
Nitrate, NO ₃ ⁻	12	-	-	50000 [0]	1100-5760 [2548]	27	-	-	50000 [0]	740-2690 [1563]
Nitrite, NO ₂ ⁻	12	-	-	500 [12]	640-3500 [2153]	27	-	-	500 [15]	21-5200 [928]
Cyanide	12	1 [1]	5 [1]	50 [0]	<10-13	27	1 [8]	5 [8]	50 [0]	<10-23 [11]
Mercury	12	-	0.07 [8]	1 [5]	<0.05-8.83 [1.5]	27	-	0.07 [18]	1 [0]	<0.05-0.33 [0.1]
Arsenic	12	50 [1]	-	10 [11]	6.91-53.9 [25.0]	27	50 [9]	-	10 [23]	6.16-75.7 [34.4]
Barium	12	-	-	700* [0]	7.8-56 [27.2]	27	-	-	700* [0]	5.5 – 26 [11.2]
Beryllium	12	-	-	-	<0.1-0.3	27	-	-	-	<0.1-0.1
Boron	12	7000* [0]	-	1000 [0]	19-110 [55.6]	27	7000* [0]	-	1000 [0]	30 – 390 [87.8]
Cadmium	12	0.08 [6]	0.45 [0]	5 [0]	<0.02-0.44 [0.13]	27	0.08 [22]	0.45 [2]	5 [0]	<0.08-0.47 [0.17]
Chromium	12	4.7 [4]	-	50 [4]	<5-2100 [436]	27	4.7 [17]	-	50 [1]	1.5 – 68 [11.9]
Copper	12	1 [12]	-	2000 [0]	6.5-40 [18.9]	27	1 [26]	-	2000 [0]	<0.7 - 160 [33]
Lead	12	1.2 [9]	14 [0]	10 [0]	<0.2-7.2 [2.7]	27	1.2 [16]	14 [0]	10 [0]	<0.2 – 6.1 [1.9]
Nickel	12	4 [11]	34 [7]	20 [8]	3.5-1400 [394.4]	27	4 [27]	34 [16]	20 [21]	15 – 990 [218]
Selenium	12	-	-	10 [10]	8.1-820 [265.6]	27	-	-	10 [26]	17 - 670 [200]
Vanadium	12	100* [8]	-	-	57-460 [154.3]	27	100* [7]	-	-	19 – 900 [296]
Zinc	12	10.9 [0]	-	-	<0.5-2.9 [1.45]	27	10.9 [6]	-	-	0.5 – 44 [9.5]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-7 - Summary of data for organic determinands within Zone 2 for samples obtained from installations screening perched water / leachate. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	12	2 [0]	130 [0]	1 [0]	All <0.01	27	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Acenaphthylene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Fluoranthene	12	0.0063	0.12 [0]	-	All <0.01	27	0.0063	0.12 [0]	-	All <0.01
Anthracene	12	0.1 [0]	0.1 [0]	-	All <0.01	27	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Fluorene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Chrysene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Pyrene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Benzo(a)anthracene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Benzo(b)fluoranthene	12	-	0.017 [0]	-	All <0.01	27	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	12	-	0.017 [0]	-	All <0.01	27	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	12	0.00017	0.27 [0]	0.01 [0]	All <0.01	27	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
Benzo(g,h,i)perylene	12	-	0.0082	-	All <0.01	27	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	12	-	-	-	All <0.01	27	-	-	-	All <0.01
MTBE	12	-	-	-	All <1	27	-	-	-	All <1
Benzene	12	10 [0]	50 [0]	1 [0]	All <1	27	10 [0]	50 [0]	1 [0]	All <1
Toluene	12	74 [0]	380 [0]	-	All <1	27	74 [0]	380 [0]	-	All <1
Ethylbenzene	12	-	-	-	All <1	27	-	-	-	All <1
m,p-xylene	12	-	-	-	All <1	27	-	-	-	All <1
o-xylene	12	-	-	-	All <1	27	-	-	-	All <1
Aliphatics >C5-C6	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <1
Aliphatics >C6-C8	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <1
Aliphatics >C8-C10	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <1
Aliphatics >C10-C12	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <10
Aliphatics >C12-C16	12	-	-	10* [0]	All <10	27	-	-	10* [1]	<10 - 75
Aliphatics >C16-C21	12	-	-	10* [1]	<10 - 650	27	-	-	10* [1]	<10 - 170
Aliphatics >C21-C35	12	-	-	10* [1]	<10-1200	27	-	-	10* [1]	<10 - 360
Total Ali >C12-C35	12	-	-	10* [1]	<10-1800	27	-	-	10* [1]	<10 - 610
Aromatics >EC5-EC7	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <1
Aromatics >EC7-EC8	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <1
Aromatics >EC8-EC10	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <1
Aromatics >EC10-EC12	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <10
Aromatics >EC12-EC16	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <10
Aromatics >EC16-EC21	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <10
Aromatics >EC21-EC35	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <10
Total Aro >EC12-EC35	12	-	-	10* [0]	All <10	27	-	-	10* [0]	All <10
Phenols	12	7.7 [6]	46 [6]	-	<10-1900 [710]	12	7.7 [11]	46 [11]	-	18 - 2000 [875]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-8 - Summary of data for inorganic determinands within Zone 2 for samples obtained from installations screening River Terrace Deposits. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
pH	8	-	-	6.5 – 9.0 [0]	7.2 – 7.7 [7.5]	18	-	-	6.5 – 9.0 [0]	6.7 – 8.2 [7.1]
Conductivity mS/cm	8	-	-	2.5 [4]	1.6 – 3.2 [2.3]	18	-	-	2.5 [7]	0.94 – 17 [3.1]
Nitrate, NO ₃ ⁻	8	-	-	50000 [0]	780 – 4940 [1665]	18	-	-	50000 [0]	160 – 2020 [927]
Nitrite, NO ₂ ⁻	8	-	-	500 [1]	6.6 – 1300 [201]	18	-	-	500 [0]	<5 – 120 [29]
Cyanide	8	1 [0]	5 [0]	50 [0]	All <10	18	1 [0]	5 [0]	50 [0]	All <10
Mercury	8	-	0.07 [6]	1 [1]	<0.05 – 1.37 [2.87]	18	-	0.07 [0]	1 [0]	All <0.05
Arsenic	8	50 [0]	-	10 [0]	1.32 – 2.87 [2.1]	18	50 [0]	-	10 [3]	1.07 – 21.3 [5.9]
Barium	8	-	-	700* [0]	39 – 160 [95.1]	18	-	-	700* [0]	35 – 77 [53.1]
Beryllium	8	-	-	-	All <0.1	18	-	-	-	All <0.1
Boron	8	7000* [0]	-	1000 [0]	290 – 490 [366]	18	7000* [0]	-	1000 [0]	270 – 690 [472]
Cadmium	8	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.05 [0.02]	18	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.03
Chromium	8	4.7 [0]	-	50 [0]	<0.02 – 0.9 [0.5]	18	4.7 [11]	-	50 [0]	0.5 – 9.9 [5.3]
Copper	8	1 [8]	-	2000 [0]	2.1 – 9.9 [5.1]	18	1 [18]	-	2000 [0]	2.7 – 34 [8.7]
Lead	8	1.2 [0]	14 [0]	10 [0]	<0.2 – 1.2 [0.45]	18	1.2 [0]	14 [0]	10 [0]	<0.2 – 0.2 [0.2]
Nickel	8	4 [7]	34 [0]	20 [0]	3.5 – 11 [8.1]	18	4 [13]	34 [0]	20 [2]	2.6 – 22 [10.6]
Selenium	8	-	-	10 [3]	3.4 – 25 [11.5]	18	-	-	10 [3]	1.7 – 17 [6.7]
Vanadium	8	100* [0]	-	-	0.5 – 3.2 [1.2]	18	100* [0]	-	-	0.3 – 3 [1.4]
Zinc	8	10.9 [0]	-	-	1.4 – 9.1 [4.5]	18	10.9 [3]	-	-	2.8 – 71 [11.1]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-9 - Summary of data for organic determinands within Zone 2 for samples obtained from installations screening River Terrace Deposits. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	8	2 [0]	130 [0]	1 [0]	All <0.01	18	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Acenaphthylene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Fluoranthene	8	0.0063	0.12 [0]	-	All <0.01	18	0.0063	0.12 [0]	-	All <0.01
Anthracene	8	0.1 [0]	0.1 [0]	-	All <0.01	18	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Fluorene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Chrysene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Pyrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(a)anthracene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(b)fluoranthene	8	-	0.017 [0]	-	All <0.01	18	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	8	-	0.017 [0]	-	All <0.01	18	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	8	0.00017	0.27 [0]	0.01 [0]	All <0.01	18	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(g,h,i)perylene	8	-	0.0082	-	All <0.01	18	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
MTBE	8	-	-	-	All <1	18	-	-	-	All <1
Benzene	8	10 [0]	50 [0]	1 [0]	All <1	18	10 [0]	50 [0]	1 [0]	All <1
Toluene	8	74 [0]	380 [0]	-	All <1	18	74 [0]	380 [0]	-	All <1
Ethylbenzene	8	-	-	-	All <1	18	-	-	-	All <1
m,p-xylene	8	-	-	-	All <1	18	-	-	-	All <1
o-xylene	8	-	-	-	All <1	18	-	-	-	All <1
Aliphatics >C5-C6	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C6-C8	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C8-C10	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C10-C12	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C12-C16	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C16-C21	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C21-C35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Total Ali >C12-C35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC5-EC7	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC7-EC8	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC8-EC10	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC10-EC12	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC12-EC16	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC16-EC21	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC21-EC35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Total Aro >EC12-EC35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Phenols	8	7.7 [0]	46 [0]	-	All <10	8	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-10 - Summary of data for inorganic determinands within Zone 2 for samples obtained from installations screening Chalk. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
pH	5	-	-	6.5 – 9.0 [0]	7.1 – 8.2 [7.6]	9	-	-	6.5 – 9.0 [0]	7.1 – 7.9 [7.3]
Conductivity mS/cm	5	-	-	2.5 [3]	1.9 – 14 [8.6]	9	-	-	2.5 [8]	1.5 – 11 [8.3]
Nitrate, NO ₃ ⁻	5	-	-	50000 [0]	1260 – 29400 [11446]	9	-	-	50000 [0]	100 – 2830 [1326]
Nitrite, NO ₂ ⁻	5	-	-	500 [2]	39 – 740 [353]	9	-	-	500 [0]	12 – 100 [32.8]
Cyanide	5	1 [0]	5 [0]	50 [0]	All <10	9	1 [0]	5 [0]	50 [0]	All <10
Mercury	4	-	0.07 [2]	1 [0]	<0.05 – 0.24 [0.1]	9	-	0.07 [0]	1 [0]	All <0.05
Arsenic	5	50 [0]	-	10 [0]	0.5 – 1.32 [0.8]	9	50 [0]	-	10 [6]	4.3 – 36 [19.1]
Barium	5	-	-	700* [0]	35 – 200 [125]	9	-	-	700* [0]	59 – 160 [101]
Beryllium	5	-	-	-	All <0.1	9	-	-	-	All <0.1 - <0.2
Boron	5	7000* [0]	-	1000 [0]	97 – 620 [377]	9	7000* [0]	-	1000 [0]	400 – 830 [659]
Cadmium	5	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.08 [0.03]	9	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.04 [0.02]
Chromium	5	4.7 [0]	-	50 [0]	<0.2 – 3.8 [1.1]	9	4.7 [7]	-	50 [0]	0.4 – 28 [8.1]
Copper	5	1 [5]	-	2000 [0]	2.2 – 13 [5.2]	9	1 [9]	-	2000 [0]	6.3 – 190 [68]
Lead	5	1.2 [1]	14 [0]	10 [0]	0.2 – 2.6 [0.76]	9	1.2 [1]	14 [0]	10 [0]	<0.2 – 4.1 [0.7]
Nickel	5	4 [3]	34 [0]	20 [0]	1.9 – 13 [6.7]	9	4 [9]	34 [0]	20 [0]	4.2 – 20 [13.2]
Selenium	5	-	-	10 [4]	6.4 – 56 [33.7]	9	-	-	10 [6]	<4 – 59 [24.4]
Vanadium	5	100* [0]	-	-	0.6 – 1.1 [0.86]	9	100* [0]	-	-	<1.7 – 29 [14]
Zinc	5	10.9 [3]	-	-	<0.5 – 150 [65.9]	9	10.9 [7]	-	-	7.3 – 91 [22.9]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-11 - Summary of data for organic determinands within Zone 2 for samples obtained from installations screening Chalk. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	5	2 [0]	130 [0]	1 [0]	All <0.01	9	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Acenaphthylene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Fluoranthene	5	0.0063	0.12 [0]	-	All <0.01	9	0.0063	0.12 [0]	-	All <0.01
Anthracene	5	0.1 [0]	0.1 [0]	-	All <0.01	9	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Fluorene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Chrysene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Pyrene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Benzo(a)anthracene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Benzo(b)fluoranthene	5	-	0.017 [0]	-	All <0.01	9	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	5	-	0.017 [0]	-	All <0.01	9	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	5	0.00017	0.27 [0]	0.01 [0]	All <0.01	9	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
Benzo(g,h,i)perylene	5	-	0.0082	-	All <0.01	9	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	5	-	-	-	All <0.01	9	-	-	-	All <0.01
MTBE	5	-	-	-	All <1	9	-	-	-	All <1
Benzene	5	10 [0]	50 [0]	1 [0]	All <1	9	10 [0]	50 [0]	1 [0]	All <1
Toluene	5	74 [0]	380 [0]	-	All <1	9	74 [0]	380 [0]	-	All <1
Ethylbenzene	5	-	-	-	All <1	9	-	-	-	All <1
m,p-xylene	5	-	-	-	All <1	9	-	-	-	All <1
o-xylene	5	-	-	-	All <1	9	-	-	-	All <1
Aliphatics >C5-C6	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aliphatics >C6-C8	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aliphatics >C8-C10	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aliphatics >C10-C12	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aliphatics >C12-C16	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aliphatics >C16-C21	5	-	-	10* [1]	<10 - 48	9	-	-	10* [0]	All <10
Aliphatics >C21-C35	5	-	-	10* [1]	<10 - 110	9	-	-	10* [0]	All <10
Total Ali >C12-C35	5	-	-	10* [1]	<10 - 160	9	-	-	10* [0]	All <10
Aromatics >EC5-EC7	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aromatics >EC7-EC8	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aromatics >EC8-EC10	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <1
Aromatics >EC10-EC12	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC12-EC16	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC16-EC21	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Aromatics >EC21-EC35	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Total Aro >EC12-EC35	5	-	-	10* [0]	All <10	9	-	-	10* [0]	All <10
Phenols	5	7.7 [0]	46 [0]	-	All <10	4	7.7 [2]	46 [1]	-	<10 - 64

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

2.6 Zone 5

2.6.1 Chalk

Inorganic determinands

Samples from installations screening Chalk within Zone 5 were obtained from BH501 and BH502. The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-12 and in the text below.

- Neutral pH recorded in all samples.
- Highly elevated concentrations of nitrate (as NO_3^-) recorded in all samples. Mean concentrations reduced between 2015 and 2020/21.
- All concentrations of copper exceeded the EQS AA. Mean was about five times this in 2015 and eight times in 2020/21. No exceedances of the UK DWS were recorded.
- A large proportion of samples recorded concentrations of chromium, nickel, selenium and zinc above screening values in 2015 and 2020/21. Mean values were not highly elevated and show no clear trend over time.
- Occasional exceedances were recorded for mercury, arsenic and lead in 2015 and/or 2020/21. Mean concentrations were below screening criteria.
- All concentrations of nitrite as NO_2^- , cyanide, barium, beryllium, boron, cadmium and vanadium were below screening criteria.

Organic determinands

Samples from installations screening Chalk within Zone 5 were obtained from BH501 and BH502. The data for organic determinands from 2015 and 2020/21 are summarised in Table 2-13 and in the text below.

- All concentrations of PAHs, BTEX and phenols were below laboratory limits of detection.
- Detectable concentrations of aromatics >EC7-EC8 and >EC8-EC10 were recorded in one sample in 2020/2021. Concentrations of all other fractions were below detection in both 2015 and 2020/21.

Table 2-12 - Summary of data for inorganic determinands within Zone 5 for samples obtained from installations screening Chalk.
Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
pH	8	-	-	6.5 – 9.0 [0]	6.5 – 7.5 [7.2]	18	-	-	6.5 – 9.0 [0]	7 – 7.5 [7.2]
Conductivity mS/cm	8	-	-	2.5 [4]	1.1 – 4.9 [2.8]	18	-	-	2.5 [5]	0.68 – 4.7 [1.8]
Nitrate, NO ₃ ⁻	8	-	-	50000 [8]	70500-154000 [109788]	18	-	-	50000 [18]	54500-129000 [88717]
Nitrite, NO ₂ ⁻	7	-	-	500 [0]	9.9 – 320 [81.4]	18	-	-	500 [0]	<5 – 200 [28.3]
Cyanide	8	1 [0]	5 [0]	50 [0]	All <10	18	1 [0]	5 [0]	50 [0]	All <10
Mercury	8	-	0.07 [6]	1 [0]	<0.05 – 0.47 [0.2]	18	-	0.07 [0]	1 [0]	All <0.05
Arsenic	8	50 [0]	-	10 [0]	0.41 – 0.79 [0.62]	18	50 [0]	-	10 [1]	0.46 – 12 [3.3]
Barium	8	-	-	700* [0]	40 – 66 [52.6]	18	-	-	700* [0]	39 – 81 [52]
Beryllium	8	-	-	-	All <0.1	18	-	-	-	All <0.1
Boron	8	7000* [0]	-	1000 [0]	110 – 560 [316]	18	7000* [0]	-	1000 [0]	100 – 570 [263]
Cadmium	8	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.03 [0.02]	18	0.08 [0]	0.45 [0]	5 [0]	All <0.02
Chromium	8	4.7 [4]	-	50 [0]	0.3 – 22 [9.8]	18	4.7 [14]	-	50 [2]	3.6 – 22 [11.7]
Copper	8	1 [8]	-	2000 [0]	3.7 – 11 [5.5]	18	1 [18]	-	2000 [0]	2.5 – 31 [8.6]
Lead	8	1.2 [1]	14 [0]	10 [0]	<0.2 – 7.5 [1.2]	18	1.2 [0]	14 [0]	10 [0]	All <0.2
Nickel	8	4 [6]	34 [0]	20 [0]	3.1 – 10 [5.8]	18	4 [16]	34 [0]	20 [0]	4 – 11 [6.2]
Selenium	8	-	-	10 [4]	3.6 – 22 [11.9]	18	-	-	10 [10]	3.4 – 27 [12]
Vanadium	8	100* [0]	-	-	0.8 – 2 [1.3]	18	100* [0]	-	-	0.8 – 18 [4.8]
Zinc	8	10.9 [3]	-	-	3.6 – 18 [9.35]	18	10.9 [16]	-	-	8.8 – 21 [14.2]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-13 - Summary of data for organic determinands within Zone 5 for samples obtained from installations screening Chalk. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	8	2 [0]	130 [0]	1 [0]	All <0.01	18	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Acenaphthylene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Fluoranthene	8	0.0063	0.12 [0]	-	All <0.01	18	0.0063	0.12 [0]	-	All <0.01
Anthracene	8	0.1 [0]	0.1 [0]	-	All <0.01	18	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Fluorene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Chrysene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Pyrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(a)anthracene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(b)fluoranthene	8	-	0.017 [0]	-	All <0.01	18	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	8	-	0.017 [0]	-	All <0.01	18	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	8	0.00017	0.27 [0]	0.01 [0]	All <0.01	18	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
Benzo(g,h,i)perylene	8	-	0.0082	-	All <0.01	18	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	8	-	-	-	All <0.01	18	-	-	-	All <0.01
MTBE	8	-	-	-	All <1	18	-	-	-	All <1
Benzene	8	10 [0]	50 [0]	1 [0]	All <1	18	10 [0]	50 [0]	1 [0]	All <1
Toluene	8	74 [0]	380 [0]	-	All <1	18	74 [0]	380 [0]	-	<1 – 22.5
Ethylbenzene	8	-	-	-	All <1	18	-	-	-	<1 – 2.9
m,p-xylene	8	-	-	-	All <1	18	-	-	-	<1 – 5.4
o-xylene	8	-	-	-	All <1	18	-	-	-	<1 – 13.4
Aliphatics >C5-C6	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C6-C8	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C8-C10	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aliphatics >C10-C12	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C12-C16	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C16-C21	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aliphatics >C21-C35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Total Ali >C12-C35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC5-EC7	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <1
Aromatics >EC7-EC8	8	-	-	10* [0]	All <10	18	-	-	10* [1]	<1 - 23
Aromatics >EC8-EC10	8	-	-	10* [0]	All <10	18	-	-	10* [1]	<1 - 22
Aromatics >EC10-EC12	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC12-EC16	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC16-EC21	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Aromatics >EC21-EC35	8	-	-	10* [0]	All <10	18	-	-	10* [0]	All <10
Total Aro >EC12-EC35	8	-	-	10* [0]	All <10	18	-	-	10* [1]	<1 - 44
Phenols	8	7.7 [0]	46 [0]	-	All <10	8	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

2.7 Zone 7

2.7.1 Chalk

Inorganic determinands

Samples from installations screening Chalk within Zone 7 were obtained from BH703, BH705, BH706 and BH707. No data are available for BH706 and BH707 after December 2020 because these installations were subsequently decommissioned so that the area could be used as a construction compound. The data for inorganic determinands from 2015 and 2020/21 are summarised in Table 2-14 and in the text below.

- Neutral pH was recorded in all samples.
- Exceedances of screening criteria were recorded for electrical conductivity, nitrite as NO_2^- , mercury, cadmium, zinc, chromium, lead and nickel. Mean concentrations are below screening criteria or not highly elevated.
- Most samples recorded elevated concentrations of nitrate as NO_3^- . Concentrations generally increased between 2015 and 2020/21.
- Concentrations of copper exceeded the EQS AA in most samples, but all concentrations were below the UK DWS. The mean concentration was about four times the EQS AA in 2015 and seven times in 2020/21.
- All concentrations of cyanide, arsenic, barium, beryllium, boron and vanadium were below relevant screening criteria.

Organic determinands

Samples from installations screening Chalk within Zone 7 were obtained from BH703, BH705, BH706 and BH707. No data are available for BH706 and BH707 after December 2020 because these installations were subsequently decommissioned so that the area could be used as a construction compound. The data for organic determinands from 2015 and 2020/21 are summarised in Table 2-15.

- All concentrations of PAHs, BTEX determinands and phenols were below laboratory limits of detection in all samples.
- Detectable concentrations of aromatics >EC7-EC8 and >EC8-EC10 were recorded in two samples in 2020/21. Concentrations of all other TP fractions were below laboratory limits of detection.

Table 2-14 - Summary of data for inorganic determinands within Zone 7 for samples obtained from installations screening Chalk.
Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
pH	19	-	-	6.5 – 9.0 [0]	7 – 7.8 [7.4]	21	-	-	6.5 – 9.0 [0]	6.9 – 7.7 [7.2]
Conductivity mS/cm	19	-	-	2.5 [0]	1.1 – 1.6 [1.3]	21	-	-	2.5 [1]	0.66 – 11 [1.9]
Nitrate, NO ₃ ⁻	19	-	-	50000 [10]	10200-115000 [69489]	21	-	-	50000 [21]	50900 – 335000 [142219]
Nitrite, NO ₂ ⁻	19	-	-	500 [1]	13 – 750 [128.3]	21	-	-	500 [0]	<5 – 570 [29]
Cyanide	19	1 [0]	5 [0]	50 [0]	All <10	21	1 [0]	5 [0]	50 [0]	All <10
Mercury	19	-	0.07 [6]	1 [0]	<0.05 – 0.21 [0.08]	21	-	0.07 [0]	1 [0]	All <0.05
Arsenic	19	50 [0]	-	10 [0]	<0.15 – 0.67 [0.34]	21	50 [0]	-	10 [0]	0.2 – 2.75 [1.1]
Barium	19	-	-	700* [0]	45 – 100 [63.5]	21	-	-	700* [0]	45 – 160 [76]
Beryllium	19	-	-	-	All <0.3	21	-	-	-	<0.1 – 0.8 [0.17]
Boron	19	7000* [0]	-	1000 [0]	31 – 51 [41.4]	21	7000* [0]	-	1000 [0]	39 – 70 [53]
Cadmium	19	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.05 [0.03]	21	0.08 [8]	0.45 [0]	5 [0]	0.08 – 0.16 [0.13]
Chromium	19	4.7 [0]	-	50 [0]	<0.02 – 0.9 [0.4]	21	4.7 [9]	-	50 [0]	2 – 7.9 [4.7]
Copper	19	1 [16]	-	2000 [0]	0.6 – 15 [3.6]	21	1 [21]	-	2000 [0]	2 – 27 [7.1]
Lead	19	1.2 [5]	14 [0]	10 [0]	<0.2 – 23 [4.14]	21	1.2 [1]	14 [0]	10 [0]	<0.2 – 3.1 [0.3]
Nickel	19	4 [14]	34 [0]	20 [0]	1.7 – 26 [7.6]	21	4 [14]	34 [1]	20 [1]	2 – 37 [8.3]
Selenium	19	-	-	10 [0]	1.5 – 4.6 [2.7]	21	-	-	10 [4]	1.2 – 19 [5.2]
Vanadium	19	100* [0]	-	-	<0.2 – 0.5 [0.3]	21	100* [0]	-	-	<0.2 – 7.6 [1.9]
Zinc	19	10.9 [1]	-	-	<0.5 – 11 [3.2]	21	10.9 [9]	-	-	5.1 – 59 [14.9]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 2-15 - Summary of data for inorganic determinands within Zone 7 for samples obtained from installations screening Chalk. Concentrations in µg/l unless otherwise stated.

Determinand	2015 dataset					2020-2021 dataset				
	Samples	EQS AA	EQS MAC	UK DWS	Range	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]		[no. of exceedances]			[mean]
Naphthalene	19	2 [0]	130 [0]	1 [0]	All <0.01	21	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Acenaphthylene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Fluoranthene	19	0.0063	0.12 [0]	-	All <0.01	21	0.0063	0.12 [0]	-	All <0.01
Anthracene	19	0.1 [0]	0.1 [0]	-	All <0.01	21	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Fluorene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Chrysene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Pyrene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Benzo(a)anthracene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Benzo(b)fluoranthene	19	-	0.017 [0]	-	All <0.01	21	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	19	-	0.017 [0]	-	All <0.01	21	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	19	0.00017	0.27 [0]	0.01 [0]	All <0.01	21	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
Benzo(g,h,i)perylene	19	-	0.0082	-	All <0.01	21	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	19	-	-	-	All <0.01	21	-	-	-	All <0.01
MTBE	19	-	-	-	All <1	21	-	-	-	All <1
Benzene	19	10 [0]	50 [0]	1 [0]	All <1	21	10 [0]	50 [0]	1 [0]	All <1
Toluene	19	74 [0]	380 [0]	-	All <1	21	74 [0]	380 [0]	-	<1 – 35.4
Ethylbenzene	19	-	-	-	All <1	21	-	-	-	<1 – 4.2
m,p-xylene	19	-	-	-	All <1	21	-	-	-	<1 – 19.2
o-xylene	19	-	-	-	All <1	21	-	-	-	<1 – 7
Aliphatics >C5-C6	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <1
Aliphatics >C6-C8	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <1
Aliphatics >C8-C10	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <1
Aliphatics >C10-C12	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aliphatics >C12-C16	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aliphatics >C16-C21	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aliphatics >C21-C35	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Total Ali >C12-C35	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aromatics >EC5-EC7	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <1
Aromatics >EC7-EC8	19	-	-	10* [0]	All <10	21	-	-	10* [2]	<1 – 35
Aromatics >EC8-EC10	19	-	-	10* [0]	All <10	21	-	-	10* [2]	<1 – 30
Aromatics >EC10-EC12	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aromatics >EC12-EC16	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aromatics >EC16-EC21	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Aromatics >EC21-EC35	19	-	-	10* [0]	All <10	21	-	-	10* [0]	All <10
Total Aro >EC12-EC35	19	-	-	10* [0]	All <10	21	-	-	10* [2]	<10 – 66
Phenols	19	7.7 [0]	46 [0]	-	All <10	8	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

3 Surface water assessment

3.1 Sampling locations and approach to assessment

Surface waters have been sampled as part of the year-long programme of monthly sampling which is being undertaken by Enitial on behalf of Buro Happold. The sampling points are shown by Figure 3-1 below. Buro Happold proposed 16 sampling points (SW001 to SW016) which were positioned to target the various surface water bodies and catchments present on the Kent Project Site.

To date, sampling has been undertaken by Enitial at 10 of these locations (SW002, SW004, SW005, SW007, SW009, SW012, SW013, SW014, SW015, SW016). Note that not all of these locations have been sampled on all occasions, due to access or health and safety constraints on particular occasions (e.g. due to flooding, overgrown vegetation). The remaining locations have also not been sampled for similar reasons (access constraints, health and safety constraints or the locations being dry). To facilitate assessment, the dataset has been split by catchment (Bamber Pond, Black Duck Marsh, Botany Marsh, Central Peninsula, River Ebbsfleet), also shown by Figure 3-1 below.



Figure 3-1 - Location of surface water and sediment monitoring / sampling locations on the Kent Project Site. Colour of icon denotes the catchment.

3.2 Chemical testing suites

The chemical testing suites adopted by Buro Happold in 2020/21 are summarised in Table 3-1. All samples were analysed for all the determinands listed. Note that the testing suite adopted by Buro Happold may be subject to change for future monitoring rounds.

Table 3-1 – Chemical testing suites for surface waters.

Monitoring programme	Chemical testing suite
Buro Happold 2020	<p>General inorganics – pH, electrical conductivity, cyanide (total), sulphate (as SO₄), chloride, ammonia, ammonium, nitrate, nitrite, total nitrogen, dissolved oxygen, hardness, total dissolved solids.</p> <p>Organics – USEPA 16 PAHs, TPH CWG, BTEX including MTBE, total phenols.</p> <p>Metals and metalloids – CLEA metals, mercury</p>

3.3 Screening criteria

For the determinands for which screening criteria are available, the surface water data have been assessed with respect to the Freshwater Environmental Quality Standards (EQSs) – both the Annual Average (AA) and Maximum Allowable Concentrations (MAC). To provide further context to the data, or where EQS values are not available, the data are also compared with Drinking Water Standards (UK DWS values unless otherwise stated).

3.4 Black Duck Marsh

3.4.1 Inorganic determinands

Samples within the Black Duck Marsh catchment were obtained from SW002. The data for inorganic determinands obtained during 2020/21 are summarised in Table 3-2 and in the text below.

- Concentrations of most determinands were below screening criteria and/or laboratory limits of detection in the majority of samples.
- Near-neutral pH was recorded in all samples.
- Occasional exceedances of screening criteria were recorded for chromium, nickel and selenium, but mean concentrations were below available screening criteria.
- Concentrations of copper exceeded the EAS AA in all samples, with the mean concentration about fourteen times that value. All concentrations were below the UK DWS.
- Concentrations of zinc exceeded the EQS AA in over half of samples, with the mean concentration slightly above that value.

3.4.2 Organic determinands

Samples within the Black Duck Marsh Catchment were obtained from SW002. The data for organic determinands obtained during 2020/21 are summarised in Table 3-3. All concentrations of all organic determinands were below the laboratory limits of detection.

Table 3-2 - Summary of data for inorganic determinands within the Black Duck Marsh catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
pH	9	-	-	6.5 – 9.0 [0]	7.5 – 8.1 [7.9]
Conductivity mS/cm	9	-	-	2.5 [0]	1.7 – 2.2 [1.9]
Nitrate, NO ₃ ⁻	9	-	-	50000 [0]	540 – 1080 [679]
Nitrite, NO ₂ ⁻	9	-	-	500 [0]	<5 – 74 [26]
Cyanide	9	1 [0]	5 [0]	50 [0]	All <10
Mercury	9	-	0.07 [0]	1 [0]	All <0.05
Arsenic	9	50 [0]	-	10 [0]	5.3 – 8.2 [6.7]
Barium	9	-	-	700* [0]	41 – 65 [54.9]
Beryllium	9	-	-	-	All <0.1
Boron	9	7000* [0]	-	1000 [0]	140 – 200 [173]
Cadmium	9	0.08 [0]	0.45 [0]	5 [0]	All <0.02
Chromium	9	4.7 [3]	-	50 [0]	2.5 – 8.3 [4.6]
Copper	9	1 [9]	-	2000 [0]	4.5 – 33 [13.9]
Lead	9	1.2 [0]	14 [0]	10 [0]	<0.2 – 0.8 [0.4]
Nickel	9	4 [1]	34 [0]	20 [0]	2.4 – 7.4 [3.5]
Selenium	9	-	-	10 [1]	5.5 – 11 [6.6]
Vanadium	9	100* [0]	-	-	2.2 – 7 [4.9]
Zinc	9	10.9 [5]	-	-	3.8 – 28 [12.4]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 3-3 Summary of data for organic determinands within the Black Duck Marsh catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
Naphthalene	9	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	9	-	-	-	All <0.01
Acenaphthylene	9	-	-	-	All <0.01
Fluoranthene	9	0.0063	0.12 [0]	-	All <0.01
Anthracene	9	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	9	-	-	-	All <0.01
Fluorene	9	-	-	-	All <0.01
Chrysene	9	-	-	-	All <0.01
Pyrene	9	-	-	-	All <0.01
Benzo(a)anthracene	9	-	-	-	All <0.01
Benzo(b)fluoranthene	9	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	9	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	9	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	9	-	-	-	All <0.01
Benzo(g,h,i)perylene	9	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	9	-	-	-	All <0.01
MTBE	9	-	-	-	All <1
Benzene	9	10 [0]	50 [0]	1 [0]	All <1
Toluene	9	74 [0]	380 [0]	-	All <1
Ethylbenzene	9	-	-	-	All <1
m,p-xylene	9	-	-	-	All <1
o-xylene	9	-	-	-	All <1
Aliphatics >C5-C6	9	-	-	10x [0]	All <1
Aliphatics >C6-C8	9	-	-	10x [0]	All <1
Aliphatics >C8-C10	9	-	-	10x [0]	All <1
Aliphatics >C10-C12	9	-	-	10x [0]	All <10
Aliphatics >C12-C16	9	-	-	10x [0]	All <10
Aliphatics >C16-C21	9	-	-	10x [0]	All <10
Aliphatics >C21-C35	9	-	-	10x [0]	All <10
Total Ali >C12-C35	9	-	-	10x [0]	All <10
Aromatics >EC5-EC7	9	-	-	10x [0]	All <1
Aromatics >EC7-EC8	9	-	-	10x [0]	All <1
Aromatics >EC8-EC10	9	-	-	10x [0]	All <1
Aromatics >EC10-EC12	9	-	-	10x [0]	All <10
Aromatics >EC12-EC16	9	-	-	10x [0]	All <10
Aromatics >EC16-EC21	9	-	-	10x [0]	All <10
Aromatics >EC21-EC35	9	-	-	10x [0]	All <10
Total Aro >EC12-EC35	9	-	-	10x [0]	All <10
Phenols	9	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

3.5 Central Peninsula

3.5.1 Inorganic determinands

Samples within the Central Peninsula catchment were obtained from SW004, SW005 and SW012. The data for inorganic determinands obtained during 2020/21 are summarised in Table 3-4 and in the text below.

- Alkaline pH (>10) was consistently recorded at SW004, with near-neutral pH recorded elsewhere.
- Values for electrical conductivity, cadmium and vanadium were consistently above the screening criteria at SW004 and generally below the screening criteria elsewhere.
- All concentrations of copper exceeded the EQS AA, with the mean concentration about 12 times that value. All concentrations were below the UK DWS.
- Some exceedances of screening criteria were recorded for mercury, nitrite as NO_2^- , chromium, selenium and zinc. Mean concentrations were below these screening criteria or not highly elevated.
- Exceedances of all screening criteria were recorded. The mean concentration was about three times the EQS AA but below the other values.
- Exceedances of all screening criteria were recorded for arsenic. The mean concentration was about 2.5 times the UK DWS but below the EQS AA.
- All concentrations of nitrate as NO_3^- , barium, beryllium, boron and lead were below relevant screening criteria.

3.5.2 Organic determinands

Samples within the Central Peninsula catchment were obtained from SW004, SW005 and SW012. The data for organic determinands obtained during 2020/21 are summarised in

Table 3-5 and in the text below.

- All concentrations of PAHs, BTEX and TPH fractions were below laboratory limits of detection.
- Phenols were detected in one sample (9% of dataset). The concentration exceeded the EQS AA but was below the EQS MAC.

Table 3-4 - Summary of data for inorganic determinands within the Central Peninsula catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
pH	26	-	-	6.5 – 9.0 [8]	7.4 – 10.7 [8.7]
Conductivity mS/cm	26	-	-	2.5 [10]	0.5 – 7.6 [2.6]
Nitrate, NO ₃ ⁻	26	-	-	50000 [0]	440 – 31900 [13554]
Nitrite, NO ₂ ⁻	26	-	-	500 [5]	35 – 2900 [532]
Cyanide	26	1 [0]	5 [0]	50 [0]	All <10
Mercury	26	-	0.07 [3]	1 [0]	<0.05 – 0.14 [0.5]
Arsenic	26	50 [5]	-	10 [14]	3.66 – 75 [25.3]
Barium	26	-	-	700* [0]	5.6 – 62 [27]
Beryllium	26	-	-	-	<0.1 – 0.1
Boron	26	7000* [0]	-	1000 [0]	51 – 160 [90]
Cadmium	26	0.08 [8]	0.45 [0]	5 [0]	<0.02 – 0.21 [0.07]
Chromium	26	4.7 [9]	-	50 [0]	1.4 – 9.1 [4]
Copper	26	1 [26]	-	2000 [0]	2.7 – 39 [11.5]
Lead	26	1.2 [0]	14 [0]	10 [0]	<0.2 – 1 [0.4]
Nickel	26	4 [19]	34 [2]	20 [5]	2.7 – 37 [11.3]
Selenium	26	-	-	10 [10]	1.4 – 45 [14.4]
Vanadium	26	100* [9]	-	-	0.8 – 200 [50.5]
Zinc	26	10.9 [8]	-	-	1.4 – 47 [10.7]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 3-5 - Summary of data for organic determinands within the Central Peninsula catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
Naphthalene	26	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	26	-	-	-	All <0.01
Acenaphthylene	26	-	-	-	All <0.01
Fluoranthene	26	0.0063	0.12 [0]	-	All <0.01
Anthracene	26	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	26	-	-	-	All <0.01
Fluorene	26	-	-	-	All <0.01
Chrysene	26	-	-	-	All <0.01
Pyrene	26	-	-	-	All <0.01
Benzo(a)anthracene	26	-	-	-	All <0.01
Benzo(b)fluoranthene	26	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	26	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	26	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	26	-	-	-	All <0.01
Benzo(g,h,i)perylene	26	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	26	-	-	-	All <0.01
MTBE	26	-	-	-	All <1
Benzene	26	10 [0]	50 [0]	1 [0]	All <1
Toluene	26	74 [0]	380 [0]	-	All <1
Ethylbenzene	26	-	-	-	All <1
m,p-xylene	26	-	-	-	All <1
o-xylene	26	-	-	-	All <1
Aliphatics >C5-C6	26	-	-	10x [0]	All <1
Aliphatics >C6-C8	26	-	-	10x [0]	All <1
Aliphatics >C8-C10	26	-	-	10x [0]	All <1
Aliphatics >C10-C12	26	-	-	10x [0]	All <10
Aliphatics >C12-C16	26	-	-	10x [0]	All <10
Aliphatics >C16-C21	26	-	-	10x [0]	All <10
Aliphatics >C21-C35	26	-	-	10x [0]	All <10
Total Ali >C12-C35	26	-	-	10x [0]	All <10
Aromatics >EC5-EC7	26	-	-	10x [0]	All <1
Aromatics >EC7-EC8	26	-	-	10x [0]	All <1
Aromatics >EC8-EC10	26	-	-	10x [0]	All <1
Aromatics >EC10-EC12	26	-	-	10x [0]	All <10
Aromatics >EC12-EC16	26	-	-	10x [0]	All <10
Aromatics >EC16-EC21	26	-	-	10x [0]	All <10
Aromatics >EC21-EC35	26	-	-	10x [0]	All <10
Total Aro >EC12-EC35	26	-	-	10x [0]	All <10
Phenols	11	7.7 [1]	46 [0]	-	<10 - 18

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

3.6 Botany Marsh

3.6.1 Inorganic determinands

Samples within the Botany Marsh catchment were obtained from SW007 and SW009. The data for inorganic determinands obtained during 2020/21 are summarised in Table 3-6 and in the text below.

- Neutral pH recorded in all samples.
- Any elevated concentrations of inorganic determinands were typically recorded at SW009.
- All concentrations of copper exceeded the EQS AA, with the mean concentration about 17 times that value. All concentrations were below the UK DWS.
- Elevated concentrations of zinc were consistently recorded at SW009, with the mean concentration here about 9 times the EQS AA.
- Most samples recorded elevated values for electrical conductivity. The mean value was about double the UK DWS.
- Concentrations of cadmium were consistently elevated at SW009 and near the laboratory limits of detection at SW002. The mean concentration across the catchment (two locations) was marginally above the EQS MAC.
- Exceedances of screening criteria were frequently recorded for mercury, arsenic, boron, chromium, lead, nickel, and selenium. Mean concentrations were below the screening criteria or were not highly elevated.

3.6.2 Organic determinands

Samples within the Botany Marsh catchment were obtained from SW007 and SW009. The data for organic determinands obtained during 2020/21 are summarised in

Table 3-7 and in the text below.

- All concentrations of PAHs, BTEX and TPH fractions were below the laboratory limits of detection.
- Detectable concentrations of phenols were recorded in one sample (13% of dataset). The concentration was above the EQS AA and EQS MAC.

Table 3-6 - Summary of data for inorganic determinands within the Botany Marsh catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
pH	18	-	-	6.5 – 9.0 [0]	7.4 – 8.2 [7.7]
Conductivity mS/cm	18	-	-	2.5 [10]	0.79 – 24 [4.9]
Nitrate, NO ₃ ⁻	18	-	-	50000 [0]	340 – 12200 [3536]
Nitrite, NO ₂ ⁻	18	-	-	500 [0]	<5 – 450 [89]
Cyanide	18	1 [0]	5 [0]	50 [0]	All <10
Mercury	18	-	0.07 [4]	1 [0]	<0.05 – 0.51 [0.05]
Arsenic	18	50 [0]	-	10 [10]	5.7 – 49 [15]
Barium	18	-	-	700* [0]	30 – 140 [68.5]
Beryllium	18	-	-	-	All <0.1
Boron	18	7000* [0]	-	1000 [6]	77 – 1600 [654]
Cadmium	18	0.08 [8]	0.45 [8]	5 [0]	<0.02 – 2 [0.5]
Chromium	18	4.7 [7]	-	50 [0]	1.9 – 9.1 [4.5]
Copper	18	1 [18]	-	2000 [0]	4.4 – 56 [17]
Lead	18	1.2 [6]	14 [1]	10 [1]	<0.2 – 15 [2]
Nickel	18	4 [15]	34 [0]	20 [0]	2.3 – 14 [8.2]
Selenium	18	-	-	10 [5]	1.7 – 41 [10.9]
Vanadium	18	100* [0]	-	-	1.9 – 30 [8.7]
Zinc	18	10.9 [10]	-	-	4.3 – 190 [50.5]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 3-7 - Summary of data for organic determinands within the Botany Marsh catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
Naphthalene	18	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	18	-	-	-	All <0.01
Acenaphthylene	18	-	-	-	All <0.01
Fluoranthene	18	0.0063	0.12 [0]	-	All <0.01
Anthracene	18	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	18	-	-	-	All <0.01
Fluorene	18	-	-	-	All <0.01
Chrysene	18	-	-	-	All <0.01
Pyrene	18	-	-	-	All <0.01
Benzo(a)anthracene	18	-	-	-	All <0.01
Benzo(b)fluoranthene	18	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	18	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	18	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	18	-	-	-	All <0.01
Benzo(g,h,i)perylene	18	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	18	-	-	-	All <0.01
MTBE	18	-	-	-	All <1
Benzene	18	10 [0]	50 [0]	1 [0]	All <1
Toluene	18	74 [0]	380 [0]	-	All <1
Ethylbenzene	18	-	-	-	All <1
m,p-xylene	18	-	-	-	All <1
o-xylene	18	-	-	-	All <1
Aliphatics >C5-C6	18	-	-	10* [0]	All <1
Aliphatics >C6-C8	18	-	-	10x [0]	All <1
Aliphatics >C8-C10	18	-	-	10x [0]	All <1
Aliphatics >C10-C12	18	-	-	10x [0]	All <10
Aliphatics >C12-C16	18	-	-	10x [0]	All <10
Aliphatics >C16-C21	18	-	-	10x [0]	All <10
Aliphatics >C21-C35	18	-	-	10x [0]	All <10
Total Ali >C12-C35	18	-	-	10x [0]	All <10
Aromatics >EC5-EC7	18	-	-	10x [0]	All <1
Aromatics >EC7-EC8	18	-	-	10x [0]	All <1
Aromatics >EC8-EC10	18	-	-	10x [0]	All <1
Aromatics >EC10-EC12	18	-	-	10x [0]	All <10
Aromatics >EC12-EC16	18	-	-	10x [0]	All <10
Aromatics >EC16-EC21	18	-	-	10x [0]	All <10
Aromatics >EC21-EC35	18	-	-	10x [0]	All <10
Total Aro >EC12-EC35	18	-	-	10x [0]	All <10
Phenols	8	7.7 [1]	46 [1]	-	<10 - 57

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

3.7 Bamber Pond

3.7.1 Inorganic determinands

Samples from Bamber Pond were obtained at SW013. This location was sampled from Round 3 onwards only due to difficulties obtaining access to the secured area during earlier sampling rounds. The data for inorganic determinands obtained during 2020/21 are summarised in Table 3-8 and in the text below.

- Concentrations of the large majority of determinands were below screening criteria or the laboratory limits of detection.
- All concentrations of copper exceeded the EQS AA, with the mean concentration about five times that value. All concentrations were below the UK DWS.
- All concentration of nickel exceeded the EQS AA, but were below the EQS MAC and UK DWS. The mean concentration was marginally above the EQS AA.
- A third of samples exceeded the EQS AA for zinc. The mean concentration was marginally above that value.

3.7.2 Organic determinands

The data for organic determinands obtained during 2020/21 are summarised in Table 3-9. All concentrations of organic determinands were below the laboratory limits of detection.

Table 3-8 - Summary of data for inorganic determinands within Bamber Pond. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
pH	6	-	-	6.5 – 9.0 [0]	8 – 8.1 [8]
Conductivity mS/cm	6	-	-	2.5 [0]	0.66 – 0.85 [0.77]
Nitrate, NO ₃ ⁻	6	-	-	50000 [0]	6250 – 26400 [17591]
Nitrite, NO ₂ ⁻	6	-	-	500 [0]	49 – 100 [73]
Cyanide	6	1 [0]	5 [0]	50 [0]	All <10
Mercury	6	-	0.07 [0]	1 [0]	All <0.05
Arsenic	6	50 [0]	-	10 [0]	0.9 – 2.2 [1.5]
Barium	6	-	-	700* [0]	34 – 46 [36.8]
Beryllium	6	-	-	-	<0.1
Boron	6	7000* [0]	-	1000 [0]	78 – 140 [95]
Cadmium	6	0.08 [0]	0.45 [0]	5 [0]	All <0.02
Chromium	6	4.7 [0]	-	50 [0]	1.9 – 3.4 [2.6]
Copper	6	1 [6]	-	2000 [0]	3.1 – 6.1 [4.7]
Lead	6	1.2 [0]	14 [0]	10 [0]	<0.2 – 0.5 [0.3]
Nickel	6	4 [6]	34 [0]	20 [0]	4.1 – 9.4 [5.3]
Selenium	6	-	-	10 [0]	1.7 – 4.9 [2.9]
Vanadium	6	100* [0]	-	-	1.3 – 3.1 [2.1]
Zinc	6	10.9 [2]	-	-	5.8 – 22 [11.6]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 3-9 - Summary of data for organic determinands within Bamber Pond. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
Naphthalene	6	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	6	-	-	-	All <0.01
Acenaphthylene	6	-	-	-	All <0.01
Fluoranthene	6	0.0063	0.12 [0]	-	All <0.01
Anthracene	6	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	6	-	-	-	All <0.01
Fluorene	6	-	-	-	All <0.01
Chrysene	6	-	-	-	All <0.01
Pyrene	6	-	-	-	All <0.01
Benzo(a)anthracene	6	-	-	-	All <0.01
Benzo(b)fluoranthene	6	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	6	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	6	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	6	-	-	-	All <0.01
Benzo(g,h,i)perylene	6	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	6	-	-	-	All <0.01
MTBE	6	-	-	-	All <1
Benzene	6	10 [0]	50 [0]	1 [0]	All <1
Toluene	6	74 [0]	380 [0]	-	All <1
Ethylbenzene	6	-	-	-	All <1
M,p-xylene	6	-	-	-	All <1
o-xylene	6	-	-	-	All <1
Aliphatics >C5-C6	6	-	-	10* [0]	All <1
Aliphatics >C6-C8	6	-	-	10x [0]	All <1
Aliphatics >C8-C10	6	-	-	10x [0]	All <1
Aliphatics >C10-C12	6	-	-	10x [0]	All <10
Aliphatics >C12-C16	6	-	-	10x [0]	All <10
Aliphatics >C16-C21	6	-	-	10x [0]	All <10
Aliphatics >C21-C35	6	-	-	10x [0]	All <10
Total Ali >C12-C35	6	-	-	10x [0]	All <10
Aromatics >EC5-EC7	6	-	-	10x [0]	All <1
Aromatics >EC7-EC8	6	-	-	10x [0]	All <1
Aromatics >EC8-EC10	6	-	-	10x [0]	All <1
Aromatics >EC10-EC12	6	-	-	10x [0]	All <10
Aromatics >EC12-EC16	6	-	-	10x [0]	All <10
Aromatics >EC16-EC21	6	-	-	10x [0]	All <10
Aromatics >EC21-EC35	6	-	-	10x [0]	All <10
Total Aro >EC12-EC35	6	-	-	10x [0]	All <10
Phenols	3	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

3.8 River Ebbsfleet

3.8.1 Inorganic determinands

Samples from the River Ebbsfleet catchment were obtained from SW014, SW015 and SW016. SW014 and SW016 were sampled on all monitoring rounds, whereas SW015 was sampled sporadically due to access difficulties (i.e. it is located within a locked compound). The data for inorganic determinands obtained during 2020/21 are summarised in Table 3-10 and in the text below.

- Concentrations of the large majority of determinands were below screening criteria or laboratory limits of detection.
- Near-neutral pH was recorded in all samples.
- Concentrations of copper exceeded the EQS AA in all samples, with the mean concentration being five times that value. All concentrations were well below the UK DWS.
- Most samples exceeded the EQS AA for zinc. The mean concentration was about double that value.
- Occasional exceedances of screening criteria were recorded for chromium, lead and nickel. The mean concentrations were below all the relevant screening criteria.

3.8.2 Organic determinands

Samples within the River Ebbsfleet catchment were obtained from SW014, SW015 and SW016. The data for organic determinands obtained during 2020/21 are summarised in Table 3-11. All concentrations of organic determinands were below the laboratory limits of detection.

Table 3-10 - Summary of data for inorganic determinands within the River Ebbsfleet catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
pH	20	-	-	6.5 – 9.0 [0]	7.5 – 7.9 [7.7]
Conductivity mS/cm	20	-	-	2.5 [0]	0.3 – 0.89 [0.63]
Nitrate, NO ₃ ⁻	20	-	-	50000 [8]	310 – 62300 [40520]
Nitrite, NO ₂ ⁻	20	-	-	500 [0]	5.4 – 230 [60]
Cyanide	20	1 [0]	5 [0]	50 [0]	All <10
Mercury	20	-	0.07 [0]	1 [0]	All <0.05
Arsenic	20	50 [0]	-	10 [0]	0.15 – 2.1 [1.1]
Barium	20	-	-	700* [0]	21 – 53 [39.3]
Beryllium	20	-	-	-	All <0.1
Boron	20	7000* [0]	-	1000 [0]	22 – 87 [37.4]
Cadmium	20	0.08 [0]	0.45 [0]	5 [0]	<0.02 – 0.03 [0.02]
Chromium	20	4.7 [1]	-	50 [0]	1.6 – 6.5 [2.9]
Copper	20	1 [20]	-	2000 [0]	2.7 – 9.6 [5.1]
Lead	20	1.2 [1]	14 [0]	10 [0]	<0.2 – 2.1 [0.2]
Nickel	20	4 [3]	34 [0]	20 [0]	2 – 8.5 [3.2]
Selenium	20	-	-	10 [0]	<0.6 – 2.7 [1.3]
Vanadium	20	100* [0]	-	-	<0.2 – 6.8 [1.6]
Zinc	20	10.9 [17]	-	-	5.2 – 81 [19.2]

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

Table 3-11 - Summary of data for organic determinands within the River Ebbsfleet catchment. Concentrations in µg/l unless otherwise stated.

Determinand	Samples	EQS AA	EQS MAC	UK DWS	Range
		[no. of exceedances]			[mean]
Naphthalene	20	2 [0]	130 [0]	1 [0]	All <0.01
Acenaphthene	20	-	-	-	All <0.01
Acenaphthylene	20	-	-	-	All <0.01
Fluoranthene	20	0.0063	0.12 [0]	-	All <0.01
Anthracene	20	0.1 [0]	0.1 [0]	-	All <0.01
Phenanthrene	20	-	-	-	All <0.01
Fluorene	20	-	-	-	All <0.01
Chrysene	20	-	-	-	All <0.01
Pyrene	20	-	-	-	All <0.01
Benzo(a)anthracene	20	-	-	-	All <0.01
Benzo(b)fluoranthene	20	-	0.017 [0]	-	All <0.01
Benzo(k)fluoranthene	20	-	0.017 [0]	-	All <0.01
Benzo(a)pyrene	20	0.00017	0.27 [0]	0.01 [0]	All <0.01
Dibenzo(a,h)perylene	20	-	-	-	All <0.01
Benzo(g,h,i)perylene	20	-	0.0082	-	All <0.01
Indeno(1,2,3-cd)pyrene	20	-	-	-	All <0.01
MTBE	20	-	-	-	All <1
Benzene	20	10 [0]	50 [0]	1 [0]	All <1
Toluene	20	74 [0]	380 [0]	-	All <1
Ethylbenzene	20	-	-	-	All <1
m,p-xylene	20	-	-	-	All <1
o-xylene	20	-	-	-	All <1
Aliphatics >C5-C6	20	-	-	10* [0]	All <1
Aliphatics >C6-C8	20	-	-	10x [0]	All <1
Aliphatics >C8-C10	20	-	-	10x [0]	All <1
Aliphatics >C10-C12	20	-	-	10x [0]	All <10
Aliphatics >C12-C16	20	-	-	10x [0]	All <10
Aliphatics >C16-C21	20	-	-	10x [0]	All <10
Aliphatics >C21-C35	20	-	-	10x [0]	All <10
Total Ali >C12-C35	20	-	-	10x [0]	All <10
Aromatics >EC5-EC7	20	-	-	10x [0]	All <1
Aromatics >EC7-EC8	20	-	-	10x [0]	All <1
Aromatics >EC8-EC10	20	-	-	10x [0]	All <1
Aromatics >EC10-EC12	20	-	-	10x [0]	All <10
Aromatics >EC12-EC16	20	-	-	10x [0]	All <10
Aromatics >EC16-EC21	20	-	-	10x [0]	All <10
Aromatics >EC21-EC35	20	-	-	10x [0]	All <10
Total Aro >EC12-EC35	20	-	-	10x [0]	All <10
Phenols	8	7.7 [0]	46 [0]	-	All <10

* WHO DWS, * UK Statutory EQSs for the Protection of Aquatic Life, *Withdrawn UK DWS

4 Sediment assessment

4.1 Sampling locations and approach to assessment

Sediments have been sampled at locations corresponding to the surface water sampling points described in Chapter 3 and shown by Figure 4-1 below. Sediments are being sampled on a quarterly basis (by Enitial on behalf of Buro Happold) as part of a year-long sampling and monitoring programme, with three rounds of data available to date (sampled during Round 1, Round 4 and Round 8).

Buro Happold proposed 16 sampling points (SW001 to SW016) which were positioned to target the various water bodies and catchments on the Kent Project Site. The intention was that sediment samples would be obtained from corresponding surface water sampling points. To date, sediment samples have been obtained from ten of these locations (SW002, SW004, SW005, SW007, SW009, SW012, SW013, SW014, SW016). Note that not all of these locations were sampled on all occasions due to particular access constraints (health and safety, overgrown vegetation, flooding etc.). In particular, for some surface water locations that were sampled during Round 4, there are no corresponding sediment samples as some samples were lost (due to contractor error). Due to the relatively limited data available, the data are assessed as one set rather than divided by the catchments described in Chapter 3.



Figure 4-1 - Surface water and sediment sampling locations on the Kent Project Site. Colour of icon denotes the catchment.

4.2 Chemical testing suites

The chemical testing suites adopted by Buro Happold in 2020/21 are summarised in Table 4-1 overleaf. All samples were analysed for all the determinands listed.

Table 4-1 – Chemical testing suite for sediments.

Monitoring programme	Chemical testing suite
Buro Happold 2020	<p>General inorganics – pH, soil organic matter, asbestos screen, cyanide (total).</p> <p>Organics – USEPA 16 PAHs, TPH CWG, BTEX including MTBE.</p> <p>Metals and metalloids – CLEA metals, mercury (total)</p>

4.3 Screening criteria

Soils data have been assessed using GACs, C4SLs and SGVs for the Contaminated Land Exposure Assessment (CLEA) Public Open Space (Parks) (POS_{Parks}), residential without plant uptake (Res₂) and commercial land use scenarios. The POS_{Parks} criteria are most relevant to the current and proposed land uses to establish suitability for use, however the Res₂ and commercial criteria provide further context to the data.

4.4 Inorganic determinands

Sediments from the banks of surface water bodies have been obtained from SW002, SW004, SW005, SW007, SW009, SW012, SW013, SW014 and SW016 on one monitoring round. The data for inorganic determinands from that monitoring round are summarised in Table 4-2 and in the text below.

- Concentrations of the large majority of determinands (all but mercury, arsenic and lead) were below all of the adopted screening criteria.
- Alkaline pH was recorded at some locations on the Swanscombe Peninsula (SW004, SW009), at Bamber Pond (SW013) and the River Ebbsfleet (SW014).
- Two samples exceeded the Res₂ criteria for arsenic. Both exceedances were recorded at Botany Marsh (SW007 and SW009) and were not highly elevated.
- One sample exceeded the Res₂ criteria for lead. This was recorded at Botany Marsh (SW009).
- Two samples exceeded the Res₂ screening criteria for mercury. These were both recorded at SW004 and the concentrations were not highly elevated.

4.5 Organic determinands

The data for inorganic determinands from sediment sampling are summarised in

Table 4-3 and in the text below.

- Concentrations of the large majority of determinands were below all of the adopted screening criteria.
- Occasional exceedances of Resi₂ criteria were recorded for some PAHs.
- Three samples on the Swanscombe Peninsula (from SW002, SW005 and SW009) exceeded the Resi₂ values for naphthalene. The concentrations were well below the commercial and POS_{Parks} values.
- Two samples (from SW014) exceeded the Resi₂ criteria for particular PAHs (benzo(b)fluoranthene, benzo(a)pyrene and benzo(ghi)perylene). The concentrations of these determinands were not highly elevated above the Resi₂ values.

Table 4-2 - Summary of sediment (soils) data for inorganic determinands from samples obtained across the Kent Project Site (concentrations in mg/kg).

Determinand	Samples	Resi ₂	POS _{Parks}	Commercial	Range	Location of maximum
		[no. of exceedances]				
pH	17	-	-	-	7.5 – 11.1	SW013
SOM (%)	19	-	-	-	0.3 - 16	SW002
Asbestos	19	-	-	-	Not detected	-
Cyanide	19	760 [0]	N/A	16000 [0]	<1 – 1.3	SW002
Arsenic	19	40 [2]	168 [0]	640 [0]	5.3 - 55	SW007
Barium	19	N/A	N/A	N/A	35 – 140	SW007
Beryllium	19	1.7 [0]	63 [0]	12 [0]	0.18 – 1.3	SW009
Boron	19	11000 [0]	46000 [0]	240000 [0]	0.2 – 24	SW002
Cadmium	19	149 [0]	532 [0]	410 [0]	<0.2 – 6.7	SW004
Chromium	17	910 [0]	33000 [0]	8600 [0]	7.6 – 56	SW016
Copper	19	7100 [0]	44000 [0]	68000 [0]	10 – 120	SW016
Lead	19	310 [1]	1300 [0]	2330 [0]	19 – 660	SW009
Mercury	19	1.2 [2]	30 [0]	58 [0]	<0.3 – 1.8	SW004
Nickel	19	180 [0]	800 [0]	980 [0]	9.8 – 34	SW016
Selenium	19	430 [0]	1800 [0]	12000 [0]	<1 – 7.7	SW004
Vanadium	19	1200 [0]	5000 [0]	9000 [0]	13 – 140	SW004
Zinc	19	40000 [0]	170000 [0]	730000 [0]	60 – 330	SW004

Table 4-3 - Summary of sediment (soils) data for inorganic determinands from samples obtained across the Kent Project Site (concentrations in mg/kg).

Determinand	Samples	Resi ₂	POS _{Parks}	Commercial	Range	Location of maximum
		[no. of exceedances]				
Naphthalene	19	2.3 [3]	1200 [0]	190 [0]	<0.05 – 6.3	SW002
Acenaphthylene	19	2900 [0]	29000 [0]	83000 [0]	<0.05 – 0.24	SW014
Acenaphthene	19	3000 [0]	29000 [0]	84000 [0]	<0.05 – 1.2	SW009
Fluorene	19	2800 [0]	20000 [0]	63000 [0]	<0.05 – 1.1	SW002
Phenanthrene	19	1300 [0]	6200 [0]	22000 [0]	<0.05 – 10	SW014
Anthracene	19	31000 [0]	150000 [0]	520000 [0]	<0.05 – 2.7	SW014
Fluoranthene	19	1500 [0]	6300 [0]	23000 [0]	<0.05 – 13	SW014
Pyrene	19	3700 [0]	15000 [0]	54000 [0]	<0.05 – 10	SW014
Benzo(a)anthracene	19	11 [0]	49 [0]	170 [0]	<0.05 – 5.9	SW014
Chrysene	19	30 [0]	93 [0]	350 [0]	<0.05 – 4.3	SW014
Benzo(b)fluoranthene	19	3.9 [2]	13 [0]	44 [0]	<0.05 – 5	SW014
Benzo(k)fluoranthene	19	110 [0]	370 [0]	1200 [0]	<0.05 – 2.1	SW014
Benzo(a)pyrene	19	3.2 [2]	11 [0]	35 [0]	<0.05 – 3.8	SW014
Indeno(1,2,3-cd)pyrene	19	45 [0]	150 [0]	500 [0]	<0.05 – 2.1	SW014
Dibenzo(a,h)perylene	19	0.31 [2]	1.1 [0]	3.5 [0]	<0.05 – 0.53	SW014
Benzo(g,h,i)perylene	19	360 [0]	1400 [0]	3900 [0]	<0.05 – 2.5	SW014
MTBE	19	N/A	N/A	N/A	All <1	-
Benzene	19	0.38 [0]	90 [0]	27 [0]	All <1	-
Toluene	19	869 [0]	87000 [0]	869 [0]	All <1	-
Ethylbenzene	19	83 [0]	17000 [0]	518 [0]	All <1	-
m,p-xylene	19	79 [0]	17000 [0]	576 [0]	All <1	-
o-xylene	19	88 [0]	17000 [0]	478 [0]	All <1	-
Aliphatic C5 - C6	19	42 [0]	95000 [0]	3200 [0]	All <0.001	-
Aliphatic C6 - C8	19	100 [0]	150000 [0]	7800 [0]	All <0.001	-
Aliphatic C8 - C10	19	27 [0]	14000 [0]	2000 [0]	All <0.001	-
Aliphatic C10 - C12	19	130 [0]	21000 [0]	9700 [0]	<1 – 2.8	SW012
Aliphatic C12 - C16	19	1100 [0]	25000 [0]	59000 [0]	<2 – 5.1	SW004
Aliphatic C16 - C21	19	65000 [0]	450000 [0]	1600000 [0]	<8 - 61	SW012
Aliphatic C21 - C35	19	64000 [0]	450000 [0]	1600000 [0]	<8 - 200	SW016
Total Aliphatic	19	N/A	N/A	N/A	<10 - 220	SW002
Aromatic C5 - C7	19	370 [0]	76000 [0]	26000 [0]	All <0.001	-
Aromatic C7 - 8	19	860 [0]	87000 [0]	56000 [0]	All <0.001	-
Aromatic C8 - C10	19	47 [0]	7200 [0]	3500 [0]	All <0.001	-
Aromatic C10 - 12	19	250 [0]	9200 [0]	16000 [0]	<1 - 46	SW002
Aromatic C12 - C16	19	1800 [0]	10000 [0]	36000 [0]	<2 - 18	SW012
Aromatic C16 - C21	19	1900 [0]	7600 [0]	28000 [0]	<10 - 73	SW014
Aromatic C21 - C35	19	1900 [0]	7800 [0]	28000 [0]	<10 - 120	SW016
Total Aromatic	19	1900 [0]	N/A	28000 [0]	<10 - 180	SW002

References

- [1] Geotechnical Engineering Ltd, "London Paramount Entertainment Resort. Factual Report on Ground Investigation. Report Ref: 30766," 2016.
- [2] Atkins, "London Paramount Entertainment Resort. Geotechnical and Geo-Environmental Interpretative Report. London Resort Company Holdings. Document ref: 5139214/GIR/DRAFT/Rev1.0," 2015.

Appendix A Atkins 2015 data

Groundwater and Leachate Data Screening (Controlled Waters)

Values are in mg/L unless otherwise stated in the column header

UK Standards for the Protection of Surface Water Quality (Water Framework Directive)	UK Standards for the Protection of Aquatic Life (Surface Water)	UK Standards for the Protection of Freshwater	UK Standards for Ensuring the Quality of Drinking Water Intended for Human Consumption (Water Supply (Water Quality) Regulations)	UK Drinking Water Standards (Drinking Water)	WHO Drinking Water Guideline
Exceedance of both DWS and EQS	Exceedance of EQS	Exceedance of DWS			

ab Sample Number	Units	Limit of detection	Drinking Water Screening Value (DWS)	Surface Water Screening Value (EQS)	No. detections	Minimum Value	Maximum Value	No. Exceedances	465834	470638	470679	475317	479874	465835	470640	475321	479877	465166	470680	475318	479870	465838	470707	475320	479871	461326	465169	470709	475322	479875	
Sample Reference									BH101	BH101	Duplicate B (Dip of BH101)	BH101	BH101	WS101	WS101	WS101	WS101	WS102	WS102	WS102	WS102	BH201	BH201	BH201	BH201	BH202	BH202	BH202	BH202		
Depth (m)									Chalk	Chalk	Chalk	Chalk	Chalk	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd	Leachate/Pe chd		
Date Sampled									15/07/2015	29/07/2015	29/07/2015	12/08/2015	27/08/2015	15/07/2015	29/07/2015	12/08/2015	27/08/2015	14/07/2015	29/07/2015	12/08/2015	27/08/2015	15/07/2015	29/07/2015	12/08/2015	27/08/2015	02/07/2015	14/07/2015	29/07/2015	12/08/2015		
Groundwater Body																															
HTBE (Methyl Tertiary Butyl Ether)	µg/l	1	No DWS	No EQS	87	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Sum of xylenes	µg/l	SUM	No DWS	30	87	0	8.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TPH CWG																															
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	No EQS	87	0	0	0	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	<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	10	No EQS	87	0	0	0	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	<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	10	No EQS	87	0	0	0	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	<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	No EQS	87	18	18	1.8	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	No EQS	87	12	170	2	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	No EQS	87	48	650	5	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	No EQS	87	110	1300	5	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aliphatic (C3 - C35)	µg/l	10	No EQS	87	160	2000	5	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aromatic >C5 - C7	µg/l	10	No EQS	87	0	0	0	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	<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	10	No EQS	87	0	0	0	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	<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	10	No EQS	87	0	0	0	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	<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	No EQS	87	84	200	2	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aromatic >C12 - C16	µg/l	10	No EQS	87	230	520	2	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aromatic >C16 - C21	µg/l	10	No EQS	87	110	1500	2	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aromatic >C21 - C35	µg/l	10	No EQS	87	0	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
TPH-CWG - Aromatic (C3 - C35)	µg/l	10	No EQS	87	420	2300	2	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
VOCs																															
Chloromethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Chloroethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Bromomethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Vinyl Chloride	µg/l	1	0.5	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Trichlorofluoromethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
dis 1,2-Dichloroethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
HTBE (Methyl Tertiary Butyl Ether)	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloroethane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
2,2-Dichloropropane	µg/l	1	No DWS	No EQS	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Trichloroethane	µg/l	1	No DWS	2.5	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1,1-Trichloroethane	µg/l	1	No DWS	100	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2-Dichloroethane	µg/l	1	3	10	74	0	0	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	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,1-Dichloropropene	µg/l	1	No																												

Values in italics are method detected in limits

Leachate
 Exceedance of both DWS and EGS
 Exceedance of EGS
 Exceedance of DWS

Lab Sample Number		462991	462993	462909	462987	462800	462907	462908	462874	462796	463176	462899
Sample Reference		BH101	WS101	WS102	BH202	BH202	BH203	BH203	BH204	WS202	WS202	WS204
Groundwater Body	Units											
Depth (m)		21.0	5.6	4.2	7.0	11.5	5	13	6.7	6.7	11.7	4.45
Date Sampled		22/06/2015	23/06/2015	24/06/2015	10/06/2015	11/06/2015	29/06/2015	29/06/2015	24/06/2015	25/06/2015	26/06/2015	29/06/2015
Analytical Parameter (Water Analysis)												
General Inorganics												
pH	pH Units											
Electrical Conductivity	µS/cm											
Total Cyanide	µg/l											
Comp ex Cyanide	µg/l											
Free Cyanide	µg/l											
Sulphate as SO4	µg/l											
Sulphide	µg/l											
Chloride	µg/l											
Ammonical Nitrogen as N	mg/l											
Nitrate as N	mg/l											
Nitrate as NO3	mg/l											
Nitrite as N	µg/l											
Nitrite as NO2	µg/l											
Chemical Oxygen Demand (Totl)	mg/l											
Biochem cal Oxygen Demand	mg/l											
Total Oxidised N trogen	mg/l											
Total Phenols												
Total Phenols (monohydr c)	µg/l											
PAHs												
Naphthalene	µg/l	< 0.01	< 0.01	< 0.01	1.4	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	< 0.01	< 0.01	< 0.01	1.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	< 0.01	< 0.01	< 0.01	0.53	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	< 0.01	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	< 0.01	< 0.01	< 0.01	0.68	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	< 0.01	< 0.01	< 0.01	0.16	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chr sene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzofluorene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzof(a,h)anthracene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzof(g,h)perylene	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Coronene	µg/l											
Sum of benzo(b)fluoranthene and be	µg/l	0	0	0	0	0	0	0	0	0	0	0
S m of inden(1,2,3-cd)rene and f	µg/l	0	0	0	0	0	0	0	0	0	0	0
Total PAHs												
Total EPA-16 PAHs	µg/l	< 0.2	< 0.2	< 0.2	4.3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Total WAC-17 PAHs	µg/l											
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l											
Antimony (dissolved)	µg/l											
Arsenic (dissolved)	µg/l	3.6	< 1.1	< 1.1	< 1.1	20	< 1.1	3.7	12	< 1.1	8.8	7.1
Barium (dissolved)	µg/l	94	78	40	80	52	260	34	11	440	30	32
Beryllium (dissolved)	µg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	13	41	< 10	27	120	< 10	68	58	12	170	170
Cadmium (dissolved)	µg/l	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l											
Chromium (dissolved)	µg/l	3.7	< 0.4	< 0.4	6.1	1.6	1.6	1.4	4	180	0.7	1.5
Copper (dissolved)	µg/l	1.1	3.2	2	2.7	9.2	2.6	2.4	21	7.6	2.7	4.4
Iron (dissolved)	mg/l											
Lead (dissolved)	µg/l	1.4	< 1.0	< 1.0	1.8	< 1.0	3.9	2	< 1.0	1.5	1.2	3.5
Manganese (dissolved)	µg/l											
Mercury (dissolved)	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Molybdenum (dissolved)	µg/l											
Nickel (dissolved)	µg/l	1.1	1.6	0.4	< 0.7	2.7	0.4	1.4	4.2	2.1	0.8	1.9
Selenium (dissolved)	µg/l	< 4.0	< 4.0	< 4.0	14	< 4.0	< 4.0	< 4.0	7.1	18	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	3.9	< 1.7	7.1	3.1	31	18	21	12	25	35	
Zinc (dissolved)	µg/l	8.5	1.9	1.2	2.8	3.1	0.6	2.3	4.9	1.2	1.3	2.1
Calcium (dissolved)	mg/l											
Magnesium (dissolved)	mg/l											
Potassium (dissolved)	mg/l											
Phosphorus (total)	µg/l											
Monoaromatics												
Benzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethyl benzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m/p-Xylene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.6	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 1.0	< 1.0

Values in italics are method detected in L m ls

Leachate

Exceedance of both DWS and EGS

Exceedance of EGS

Exceedance of DWS

Lab Sample Number	462991	462993	462909	462987	462800	462907	462908	462874	462796	463176	462899
Sample Reference	BH101	WS101	WS102	BH202	BH202	BH203	BH203	BH204	WS202	WS202	WS204
Groundwater Body	Units										
Depth (m)	21.0	5.6	4.2	7.0	11.5	5	13	6.7	6.7	11.7	4.45
Date Sampled	22/06/2015	23/06/2015	24/06/2015	10/06/2015	11/06/2015	29/06/2015	29/06/2015	24/06/2015	25/06/2015	26/06/2015	29/06/2015
Analytical Parameter (Water Analysis)											
MTBE (Methyl Tertiary Butyl Ether)	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Sum of xylenes	µg/l	0	0	0	0	0	0	8.7	0	0	0
TPH CWG											
TPH-CWG - Aliphatic >C5 - C6	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	18	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	170	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	540	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C25	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	1200	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	2000	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	< 10	< 10	< 10	94	< 10	< 10	200	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	< 10	< 10	< 10	230	< 10	< 10	520	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	< 10	< 10	< 10	110	< 10	< 10	1500	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	< 10	< 10	< 10	420	< 10	< 10	2300	< 10	< 10	< 10
VOCs											
Chloromethane	µg/l										
Chloroethane	µg/l										
Bromomethane	µg/l										
Vinyl Chloride	µg/l										
Trichlorofluoromethane	µg/l										
1,1-Dichloroethane	µg/l										
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l										
ds 1 - Dichloroethane	µg/l										
MTBE (Methyl Tertiary Butyl Ether)	µg/l										
1,1-Dichloroethane	µg/l										
1,2-Dichloropropane	µg/l										
Trichloroethane	µg/l										
1,1,1-Trichloroethane	µg/l										
1,2-Dichloroethane	µg/l										
1,1-Dichloro ethane	µg/l										
trans 1,2-Dichloroethane	µg/l										
Benzene	µg/l										
Tetrachloromethane	µg/l										
1,2-Dichloro ethane	µg/l										
Trichloroethane	µg/l										
Di bromomethane	µg/l										
Bromodibromomethane	µg/l										
ds 1,3-Dichloropropane	µg/l										
trans 1,3-Dichloro ethane	µg/l										
Toluene	µg/l										
1,1 - Trichloroethane	µg/l										
1,3-Dichloropropane	µg/l										
Di bromochloromethane	µg/l										
Tetrachloroethane	µg/l										
1,2-Di bromoethane	µg/l										
Chloro benzene	µg/l										
1,1,1,2-Tetrachloroethane	µg/l										
Eth 1,1 benzene	µg/l										
m and p-xylene	µg/l										
Styrene	µg/l										
Ti bromomethane	µg/l										
n-Xylene	µg/l										
1,1,2 -Tetrachloroethane	µg/l										
iso-Propyl benzene	µg/l										
Bromo benzene	µg/l										
Propyl benzene	µg/l										
2-Chloroethyl benzene	µg/l										
4-Chloroethyl benzene	µg/l										
1,3,5-Trimethyl benzene	µg/l										
tert-Butyl benzene	µg/l										
1,2,4-Trimethyl benzene	µg/l										
sec-Butyl benzene	µg/l										
1,3-Dichloro benzene	µg/l										
iso-propyl benzene	µg/l										
o	0										
1,4-Dichloro benzene	µg/l										
y	0										
1,2-Di bromo-3-chloro ethane	µg/l										
1,2,4-Trichloro benzene	µg/l										
Hexachloro cyclohexadiene	µg/l										

Values in italics are method detected in L m ls

Leachate
 Exceedance of both DWS and EGS
 Exceedance of EGS
 Exceedance of DWS

Lab Sample Number	462991	462993	462909	462987	462800	462907	462908	462874	462796	463176	462899
Sample Reference	BH101	WS101	WS102	BH202	BH202	BH203	BH203	BH204	WS202	WS202	WS204
Groundwater Body	Units										
Depth (m)	21.0	5.6	4.2	7.0	11.5	5	13	6.7	6.7	11.7	4.45
Date Sampled	22/06/2015	23/06/2015	24/06/2015	10/06/2015	11/06/2015	29/06/2015	29/06/2015	24/06/2015	25/06/2015	26/06/2015	29/06/2015
Analytical Parameter (Water Analysis)											
1,2,3-Trichlorobenzene	µg/l										
sVOCs											
Aniline	µg/l										
Phenol	µg/l										
2-Chlorophenol	µg/l										
bis(2-Chloroethoxy)ether	µg/l										
1,3-Dichlorobenzene	µg/l										
1,2-Dichlorobenzene	µg/l										
1,4-Dichlorobenzene	µg/l										
bis(2-Chloroisopropyl)ether	µg/l										
2-Methylphenol	µg/l										
Hexachloroethane	µg/l										
Nitrobenzene	µg/l										
4-Methylphenol	µg/l										
Isophorone	µg/l										
2-Nitrophenol	µg/l										
2,4-Dimethylphenol	µg/l										
bis(2-Chloroethoxy)methane	µg/l										
1,2,4-Trichlorobenzene	µg/l										
Naphthalene	µg/l										
2,4-Dichlorophenol	µg/l										
4-Chloroaniline	µg/l										
Hexachlorocyclopentadiene	µg/l										
4-Chloro-3-methylphenol	µg/l										
2,4,6-Trichlorophenol	µg/l										
2,4,5-Trichlorophenol	µg/l										
2-Methylnaphthalene	µg/l										
2-Chloronaphthalene	µg/l										
Dimethylphthalate	µg/l										
2,6-Dinitrotoluene	µg/l										
Acenaphthylene	µg/l										
Acenaphthene	µg/l										
2,4-Dinitrotoluene	µg/l										
Dibenzofuran	µg/l										
4-Chlorobenzophenone	µg/l										
Diethylphthalate	µg/l										
4-Nitroaniline	µg/l										
Fluorene	µg/l										
Azobenzene	µg/l										
4-Bromobenzophenone	µg/l										
Hexachlorobenzene	µg/l										
Phenanthrene	µg/l										
Anthracene	µg/l										
Carbazole	µg/l										
Dibenzofuran	µg/l										
Anthracene	µg/l										
Fluorene	µg/l										
Pyrene	µg/l										
Benzo[a]anthracene	µg/l										
Chrysene	µg/l										
Benzo[b]fluoranthene	µg/l										
Benzo[k]fluoranthene	µg/l										
Benzo[a]pyrene	µg/l										
Indeno[1,2,3-cd]pyrene	µg/l										
Dibenz[a,h]anthracene	µg/l										
Benzo[g,h,i]perylene	µg/l										

Appendix B Enitial 2020 data



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Analytical Report Number : 20-33704

Project / Site name:	London Resort	Samples received on:	02/10/2020
Your job number:		Samples instructed on/ Analysis started on:	05/10/2020
Your order number:		Analysis completed by:	14/10/2020
Report Issue Number:	1	Report issued on:	14/10/2020
Samples Analysed:	17 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

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



Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number	1639900	1639901	1639902	1639903
Sample Reference	BH501	BH502	BH705	WS203
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.27-19.35	12.92-18.78	3.14-19.00	1.80-4.47
Date Sampled	02/10/2020	02/10/2020	02/10/2020	30/09/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	1639900	1639901	1639902	1639903
pH	pH Units	N/A	ISO 17025	7.4	7.2	7.4	13
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	680	1500	670	58000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	16
Sulphate as SO4	mg/l	0.045	ISO 17025	125	333	133	9570*
Chloride	mg/l	0.15	ISO 17025	54	490	66	3200
Ammonia as NH3	µg/l	15	ISO 17025	< 15	30	77	70000
Ammonium as NH4	µg/l	15	ISO 17025	< 15	32	81	74000
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.4	0.3	0.2	50
Nitrate as N	mg/l	0.01	ISO 17025	14.4	21.8	17.6	0.39
Nitrate as NO3	mg/l	0.05	ISO 17025	63.6	96.5	78.1	1.72
Nitrite as N	µg/l	1	ISO 17025	6	4.8	4.6	100
Nitrite as NO2	µg/l	5	ISO 17025	20	16	15	330
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.3	1.1	< 1.0	10
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	560	1800	570	26000

Hardness - Total	mgCaCO3/l	1	ISO 17025	448	897	466	50.7
Dissolved Oxygen	mg/l	1	NONE	5.4	5.3	8.5	< 1.0

Speciated PAHs

Parameter	Units	Limit of detection	Accreditation Status	1639900	1639901	1639902	1639903
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number					1639900	1639901	1639902	1639903
Sample Reference					BH501	BH502	BH705	WS203
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					2.27-19.35	12.92-18.78	3.14-19.00	1.80-4.47
Date Sampled					02/10/2020	02/10/2020	02/10/2020	30/09/2020
Time Taken					None Supplied	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	100	270	35	30
Calcium (dissolved)	mg/l	0.012	ISO 17025	160	330	180	20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	10	15	6.7	0.075

Phosphorus (total)	µg/l	20	ISO 17025	540	250	320	150
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.57	2.71	0.72	6.35
Barium (dissolved)	µg/l	0.06	ISO 17025	39	53	48	9.1
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.1
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.6	16	3.8	1.8
Copper (dissolved)	µg/l	0.5	ISO 17025	2.5	6.4	2.3	11
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.13
Nickel (dissolved)	µg/l	0.5	ISO 17025	4	5.8	4	180
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.8	15	3.2	120
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1	4.2	1.5	24
Zinc (dissolved)	µg/l	0.5	ISO 17025	13	21	12	0.7

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number	1639904	1639905	1639906	1639907
Sample Reference	WS202	BH101	WS102	WS101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	8.62-10.90	5.74-39.11	4.65-5.42	4.48-6.26
Date Sampled	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	1639904	1639905	1639906	1639907
pH	pH Units	N/A	ISO 17025	13	7.3	12.7	7.8
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	73000	8200	21000	9700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	20000*	1150	993	15200*
Chloride	mg/l	0.15	ISO 17025	3000	6200	1600	13000
Ammonia as NH3	µg/l	15	ISO 17025	41000	7900	4800	300000
Ammonium as NH4	µg/l	15	ISO 17025	44000	8400	5000	320000
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	24	3.7	2.5	50
Nitrate as N	mg/l	0.01	ISO 17025	0.39	0.03	0.43	0.67
Nitrate as NO3	mg/l	0.05	ISO 17025	1.72	0.15	1.92	2.95
Nitrite as N	µg/l	1	ISO 17025	13	10	380	46
Nitrite as NO2	µg/l	5	ISO 17025	43	34	1300	150
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	4.3	2	< 1.0	3.2
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	33000	12000	9100	34000

Hardness - Total	mgCaCO3/l	1	ISO 17025	5.9	2890	10.8	2070
Dissolved Oxygen	mg/l	1	NONE	4.1	2.4	3.6	< 1.0

Speciated PAHs

Parameter	Units	Limit of detection	Accreditation Status	1639904	1639905	1639906	1639907
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number	1639904	1639905	1639906	1639907
Sample Reference	WS202	BH101	WS102	WS101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	8.62-10.90	5.74-39.11	4.65-5.42	4.48-6.26
Date Sampled	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	58	1100	15	820
Calcium (dissolved)	mg/l	0.012	ISO 17025	2.4	260	3.9	210
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.011	540	0.22	370

Phosphorus (total)	µg/l	20	ISO 17025	53	310	< 20	40000
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	9.7	19	7.48	0.51
Barium (dissolved)	µg/l	0.06	ISO 17025	15	130	23	2.3
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.07	< 0.02	0.06	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	12	8	45	0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	7.6	160	44	4.7
Lead (dissolved)	µg/l	0.2	ISO 17025	3	< 0.2	5.9	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	21	7.1	3.1	< 0.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	130	56	56	26
Vanadium (dissolved)	µg/l	0.2	ISO 17025	19	7.9	20	0.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	0.5	7.2	4.6	< 0.5

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number	1639908	1639909	1639910	1639911
Sample Reference	BH202	BH201	SW004	SW005
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.75-30.30	4.37-6.72	None Supplied	None Supplied
Date Sampled	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	1639908	1639909	1639910	1639911
pH	pH Units	N/A	ISO 17025	7.3	11.8	10.1	7.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	5600	3700	5900	750
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	505	537	1150	111
Chloride	mg/l	0.15	ISO 17025	3500	430	950	88
Ammonia as NH3	µg/l	15	ISO 17025	4400	4400	70	< 15
Ammonium as NH4	µg/l	15	ISO 17025	4600	4700	74	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	2.2	2.2	2.5	0.5
Nitrate as N	mg/l	0.01	ISO 17025	0.02	0.39	0.11	3.49
Nitrate as NO3	mg/l	0.05	ISO 17025	0.1	1.72	0.49	15.5
Nitrite as N	µg/l	1	ISO 17025	5.2	510	26	17
Nitrite as NO2	µg/l	5	ISO 17025	17	1700	85	57
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	4.4	2.6	7.5	1.9
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	7200	2600	3700	510

Hardness - Total	mgCaCO3/l	1	ISO 17025	1960	32.1	35.7	274
Dissolved Oxygen	mg/l	1	NONE	< 1.0	1	2.4	2.4

Speciated PAHs

Parameter	Units	Limit of detection	Accreditation Status	1639908	1639909	1639910	1639911
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number					1639908	1639909	1639910	1639911
Sample Reference					BH202	BH201	SW004	SW005
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					3.75-30.30	4.37-6.72	None Supplied	None Supplied
Date Sampled					30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Taken					None Supplied	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	550	71	72	68
Calcium (dissolved)	mg/l	0.012	ISO 17025	410	9.7	6.8	96
Magnesium (dissolved)	mg/l	0.005	ISO 17025	220	1.9	4.5	8.6

Phosphorus (total)	µg/l	20	ISO 17025	< 20	190	< 20	180
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	9.61	70	51.5	4.58
Barium (dissolved)	µg/l	0.06	ISO 17025	110	14	6.2	38
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.13	0.12	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	8.1	3.7	5.5	3.3
Copper (dissolved)	µg/l	0.5	ISO 17025	180	77	27	18
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	5.8	0.9	0.5
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.16	0.08	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	15	26	23	3.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	34	31	38	5.3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	4.2	760	130	2.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	91	34	6.7	6.4

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number	1639912	1639913	1639914	1639915
Sample Reference	SW007	SW009	SW002	BH204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	1639912	1639913	1639914	1639915
pH	pH Units	N/A	ISO 17025	7.6	7.7	8.1	7.4
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	790	920	1700	920
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	99	68.9	107	48
Chloride	mg/l	0.15	ISO 17025	100	220	640	180
Ammonia as NH3	µg/l	15	ISO 17025	120	780	750	1000
Ammonium as NH4	µg/l	15	ISO 17025	130	820	790	1100
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.6	0.6	1.2	1.1
Nitrate as N	mg/l	0.01	ISO 17025	0.08	1.01	0.12	0.1
Nitrate as NO3	mg/l	0.05	ISO 17025	0.34	4.48	0.54	0.44
Nitrite as N	µg/l	1	ISO 17025	18	65	14	15
Nitrite as NO2	µg/l	5	ISO 17025	59	210	44	49
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.4	4	1.5	5.5
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	560	590	1800	810

Hardness - Total	mgCaCO3/l	1	ISO 17025	312	193	670	357
Dissolved Oxygen	mg/l	1	NONE	1.4	4.3	4.2	1.7

Speciated PAHs

Parameter	Units	Limit of detection	Accreditation Status	1639912	1639913	1639914	1639915
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 20-33704
Project / Site name: London Resort

Lab Sample Number	1639912	1639913	1639914	1639915
Sample Reference	SW007	SW009	SW002	BH204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	77	300	190	290
Calcium (dissolved)	mg/l	0.012	ISO 17025	110	59	170	86
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	11	59	35

Phosphorus (total)	µg/l	20	ISO 17025	400	53	200	370
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	9.46	12.7	5.33	3.41
Barium (dissolved)	µg/l	0.06	ISO 17025	33	49	65	49
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.5	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.8	2.5	6.7	6.3
Copper (dissolved)	µg/l	0.5	ISO 17025	7.6	19	15	8.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	15	0.8	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.06	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.2	4.5	2.5	2.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.6	3.5	7.2	2.9
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.7	2.1	2.2	1.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	11	61	4.4	2.8

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 20-33704
Project / Site name: London Resort



Lab Sample Number	1639916			
Sample Reference	BH203			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	30/09/2020			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

General Inorganics

pH	pH Units	N/A	ISO 17025	6.8
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1700
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	1510
Chloride	mg/l	0.15	ISO 17025	260
Ammonia as NH3	µg/l	15	ISO 17025	3700
Ammonium as NH4	µg/l	15	ISO 17025	3900
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	3.5
Nitrate as N	mg/l	0.01	ISO 17025	0.2
Nitrate as NO3	mg/l	0.05	ISO 17025	0.89
Nitrite as N	µg/l	1	ISO 17025	31
Nitrite as NO2	µg/l	5	ISO 17025	100
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	3.4
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	2000

Hardness - Total	mgCaCO3/l	1	ISO 17025	1880
Dissolved Oxygen	mg/l	1	NONE	< 1.0

Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
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Analytical Report Number: 20-33704
Project / Site name: London Resort



Lab Sample Number	1639916			
Sample Reference	BH203			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	30/09/2020			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accred/ Station Status	Accred/ Station Status

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	520
Calcium (dissolved)	mg/l	0.012	ISO 17025	580
Magnesium (dissolved)	mg/l	0.005	ISO 17025	100

Phosphorus (total)	µg/l	20	ISO 17025	270
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	19.7
Barium (dissolved)	µg/l	0.06	ISO 17025	68
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.2
Copper (dissolved)	µg/l	0.5	ISO 17025	8.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	16
Selenium (dissolved)	µg/l	0.6	ISO 17025	8.7
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.3

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

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

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



Analytical Report Number : 20-33704
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination,	In house method based on BS 7755-3.7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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 : 20-33704
Project / Site name: London Resort

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
Ammonium as NH ₄ 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
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Environmental Science

Analytical Report Number : 20-33704

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1639905	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	1639905	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	1639905	c	Ammonium as NH4 in water	L082-PL	c
BH101	None Supplied	W	1639905	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1639905	c	Dissolved Oxygen in water	L086-PL	c
BH101	None Supplied	W	1639905	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101	None Supplied	W	1639905	c	Nitrate as N in water	L078-PL	c
BH101	None Supplied	W	1639905	c	Nitrate in water	L078-PL	c
BH101	None Supplied	W	1639905	c	Nitrite as N in water	L082-PL	c
BH101	None Supplied	W	1639905	c	Nitrite in water	L082-PL	c
BH101	None Supplied	W	1639905	c	pH at 20oC in water (automated)	L099-PL	c
BH201	None Supplied	W	1639909	c	Ammonia as NH3 in water	L082-PL	c
BH201	None Supplied	W	1639909	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH201	None Supplied	W	1639909	c	Ammonium as NH4 in water	L082-PL	c
BH201	None Supplied	W	1639909	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1639909	c	Dissolved Oxygen in water	L086-PL	c
BH201	None Supplied	W	1639909	c	Electrical conductivity at 20oC of water	L031-PL	c
BH201	None Supplied	W	1639909	c	Nitrate as N in water	L078-PL	c
BH201	None Supplied	W	1639909	c	Nitrate in water	L078-PL	c
BH201	None Supplied	W	1639909	c	Nitrite as N in water	L082-PL	c
BH201	None Supplied	W	1639909	c	Nitrite in water	L082-PL	c
BH201	None Supplied	W	1639909	c	pH at 20oC in water (automated)	L099-PL	c
BH202	None Supplied	W	1639908	c	Ammonia as NH3 in water	L082-PL	c
BH202	None Supplied	W	1639908	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH202	None Supplied	W	1639908	c	Ammonium as NH4 in water	L082-PL	c
BH202	None Supplied	W	1639908	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1639908	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1639908	c	Electrical conductivity at 20oC of water	L031-PL	c
BH202	None Supplied	W	1639908	c	Nitrate as N in water	L078-PL	c
BH202	None Supplied	W	1639908	c	Nitrate in water	L078-PL	c
BH202	None Supplied	W	1639908	c	Nitrite as N in water	L082-PL	c
BH202	None Supplied	W	1639908	c	Nitrite in water	L082-PL	c
BH202	None Supplied	W	1639908	c	pH at 20oC in water (automated)	L099-PL	c
BH203	None Supplied	W	1639916	c	Ammonia as NH3 in water	L082-PL	c
BH203	None Supplied	W	1639916	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	None Supplied	W	1639916	c	Ammonium as NH4 in water	L082-PL	c
BH203	None Supplied	W	1639916	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1639916	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1639916	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	None Supplied	W	1639916	c	Nitrate as N in water	L078-PL	c
BH203	None Supplied	W	1639916	c	Nitrate in water	L078-PL	c
BH203	None Supplied	W	1639916	c	Nitrite as N in water	L082-PL	c
BH203	None Supplied	W	1639916	c	Nitrite in water	L082-PL	c
BH203	None Supplied	W	1639916	c	pH at 20oC in water (automated)	L099-PL	c
BH204	None Supplied	W	1639915	c	Ammonia as NH3 in water	L082-PL	c
BH204	None Supplied	W	1639915	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH204	None Supplied	W	1639915	c	Ammonium as NH4 in water	L082-PL	c
BH204	None Supplied	W	1639915	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1639915	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1639915	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	None Supplied	W	1639915	c	Nitrate as N in water	L078-PL	c
BH204	None Supplied	W	1639915	c	Nitrate in water	L078-PL	c
BH204	None Supplied	W	1639915	c	Nitrite as N in water	L082-PL	c
BH204	None Supplied	W	1639915	c	Nitrite in water	L082-PL	c
BH204	None Supplied	W	1639915	c	pH at 20oC in water (automated)	L099-PL	c
BH501	None Supplied	W	1639900	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1639900	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH501	None Supplied	W	1639900	c	Ammonium as NH4 in water	L082-PL	c
BH501	None Supplied	W	1639900	c	Biological oxygen demand (total) of water	L086-PL	c

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

Sample Deviation Report



Analytical Report Number : 20-33704

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1639905	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1639900	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1639900	c	Electrical conductivity at 20oC of water	L031-PL	c
BH501	None Supplied	W	1639900	c	pH at 20oC in water (automated)	L099-PL	c
BH502	None Supplied	W	1639901	c	Ammonia as NH3 in water	L082-PL	c
BH502	None Supplied	W	1639901	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH502	None Supplied	W	1639901	c	Ammonium as NH4 in water	L082-PL	c
BH502	None Supplied	W	1639901	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1639901	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1639901	c	Electrical conductivity at 20oC of water	L031-PL	c
BH502	None Supplied	W	1639901	c	pH at 20oC in water (automated)	L099-PL	c
BH705	None Supplied	W	1639902	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1639902	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	None Supplied	W	1639902	c	Ammonium as NH4 in water	L082-PL	c
BH705	None Supplied	W	1639902	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	None Supplied	W	1639902	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1639902	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	None Supplied	W	1639902	c	pH at 20oC in water (automated)	L099-PL	c
SW002	None Supplied	W	1639914	c	Ammonia as NH3 in water	L082-PL	c
SW002	None Supplied	W	1639914	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW002	None Supplied	W	1639914	c	Ammonium as NH4 in water	L082-PL	c
SW002	None Supplied	W	1639914	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	None Supplied	W	1639914	c	Dissolved Oxygen in water	L086-PL	c
SW002	None Supplied	W	1639914	c	Electrical conductivity at 20oC of water	L031-PL	c
SW002	None Supplied	W	1639914	c	Nitrate as N in water	L078-PL	c
SW002	None Supplied	W	1639914	c	Nitrate in water	L078-PL	c
SW002	None Supplied	W	1639914	c	Nitrite as N in water	L082-PL	c
SW002	None Supplied	W	1639914	c	Nitrite in water	L082-PL	c
SW002	None Supplied	W	1639914	c	pH at 20oC in water (automated)	L099-PL	c
SW004	None Supplied	W	1639910	c	Ammonia as NH3 in water	L082-PL	c
SW004	None Supplied	W	1639910	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW004	None Supplied	W	1639910	c	Ammonium as NH4 in water	L082-PL	c
SW004	None Supplied	W	1639910	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	None Supplied	W	1639910	c	Dissolved Oxygen in water	L086-PL	c
SW004	None Supplied	W	1639910	c	Electrical conductivity at 20oC of water	L031-PL	c
SW004	None Supplied	W	1639910	c	Nitrate as N in water	L078-PL	c
SW004	None Supplied	W	1639910	c	Nitrate in water	L078-PL	c
SW004	None Supplied	W	1639910	c	Nitrite as N in water	L082-PL	c
SW004	None Supplied	W	1639910	c	Nitrite in water	L082-PL	c
SW004	None Supplied	W	1639910	c	pH at 20oC in water (automated)	L099-PL	c
SW005	None Supplied	W	1639911	c	Ammonia as NH3 in water	L082-PL	c
SW005	None Supplied	W	1639911	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW005	None Supplied	W	1639911	c	Ammonium as NH4 in water	L082-PL	c
SW005	None Supplied	W	1639911	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	None Supplied	W	1639911	c	Dissolved Oxygen in water	L086-PL	c
SW005	None Supplied	W	1639911	c	Electrical conductivity at 20oC of water	L031-PL	c
SW005	None Supplied	W	1639911	c	Nitrate as N in water	L078-PL	c
SW005	None Supplied	W	1639911	c	Nitrate in water	L078-PL	c
SW005	None Supplied	W	1639911	c	Nitrite as N in water	L082-PL	c
SW005	None Supplied	W	1639911	c	Nitrite in water	L082-PL	c
SW005	None Supplied	W	1639911	c	pH at 20oC in water (automated)	L099-PL	c
SW007	None Supplied	W	1639912	c	Ammonia as NH3 in water	L082-PL	c
SW007	None Supplied	W	1639912	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW007	None Supplied	W	1639912	c	Ammonium as NH4 in water	L082-PL	c
SW007	None Supplied	W	1639912	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	None Supplied	W	1639912	c	Dissolved Oxygen in water	L086-PL	c
SW007	None Supplied	W	1639912	c	Electrical conductivity at 20oC of water	L031-PL	c
SW007	None Supplied	W	1639912	c	Nitrate as N in water	L078-PL	c
SW007	None Supplied	W	1639912	c	Nitrate in water	L078-PL	c

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

Sample Deviation Report



Analytical Report Number : 20-33704

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1639905	c	Ammonia as NH3 in water	L082-PL	c
SW007	None Supplied	W	1639912	c	Nitrite as N in water	L082-PL	c
SW007	None Supplied	W	1639912	c	Nitrite in water	L082-PL	c
SW007	None Supplied	W	1639912	c	pH at 20oC in water (automated)	L099-PL	c
SW009	None Supplied	W	1639913	c	Ammonia as NH3 in water	L082-PL	c
SW009	None Supplied	W	1639913	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW009	None Supplied	W	1639913	c	Ammonium as NH4 in water	L082-PL	c
SW009	None Supplied	W	1639913	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	None Supplied	W	1639913	c	Dissolved Oxygen in water	L086-PL	c
SW009	None Supplied	W	1639913	c	Electrical conductivity at 20oC of water	L031-PL	c
SW009	None Supplied	W	1639913	c	Nitrate as N in water	L078-PL	c
SW009	None Supplied	W	1639913	c	Nitrate in water	L078-PL	c
SW009	None Supplied	W	1639913	c	Nitrite as N in water	L082-PL	c
SW009	None Supplied	W	1639913	c	Nitrite in water	L082-PL	c
SW009	None Supplied	W	1639913	c	pH at 20oC in water (automated)	L099-PL	c
WS101	None Supplied	W	1639907	c	Ammonia as NH3 in water	L082-PL	c
WS101	None Supplied	W	1639907	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS101	None Supplied	W	1639907	c	Ammonium as NH4 in water	L082-PL	c
WS101	None Supplied	W	1639907	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1639907	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1639907	c	Electrical conductivity at 20oC of water	L031-PL	c
WS101	None Supplied	W	1639907	c	Nitrate as N in water	L078-PL	c
WS101	None Supplied	W	1639907	c	Nitrate in water	L078-PL	c
WS101	None Supplied	W	1639907	c	Nitrite as N in water	L082-PL	c
WS101	None Supplied	W	1639907	c	Nitrite in water	L082-PL	c
WS101	None Supplied	W	1639907	c	pH at 20oC in water (automated)	L099-PL	c
WS102	None Supplied	W	1639906	c	Ammonia as NH3 in water	L082-PL	c
WS102	None Supplied	W	1639906	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS102	None Supplied	W	1639906	c	Ammonium as NH4 in water	L082-PL	c
WS102	None Supplied	W	1639906	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1639906	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1639906	c	Electrical conductivity at 20oC of water	L031-PL	c
WS102	None Supplied	W	1639906	c	Nitrate as N in water	L078-PL	c
WS102	None Supplied	W	1639906	c	Nitrate in water	L078-PL	c
WS102	None Supplied	W	1639906	c	Nitrite as N in water	L082-PL	c
WS102	None Supplied	W	1639906	c	Nitrite in water	L082-PL	c
WS102	None Supplied	W	1639906	c	pH at 20oC in water (automated)	L099-PL	c
WS202	None Supplied	W	1639904	c	Ammonia as NH3 in water	L082-PL	c
WS202	None Supplied	W	1639904	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS202	None Supplied	W	1639904	c	Ammonium as NH4 in water	L082-PL	c
WS202	None Supplied	W	1639904	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	None Supplied	W	1639904	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1639904	c	Electrical conductivity at 20oC of water	L031-PL	c
WS202	None Supplied	W	1639904	c	Nitrate as N in water	L078-PL	c
WS202	None Supplied	W	1639904	c	Nitrate in water	L078-PL	c
WS202	None Supplied	W	1639904	c	Nitrite as N in water	L082-PL	c
WS202	None Supplied	W	1639904	c	Nitrite in water	L082-PL	c
WS202	None Supplied	W	1639904	c	pH at 20oC in water (automated)	L099-PL	c
WS203	None Supplied	W	1639903	c	Ammonia as NH3 in water	L082-PL	c
WS203	None Supplied	W	1639903	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS203	None Supplied	W	1639903	c	Ammonium as NH4 in water	L082-PL	c
WS203	None Supplied	W	1639903	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1639903	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1639903	c	Electrical conductivity at 20oC of water	L031-PL	c
WS203	None Supplied	W	1639903	c	Nitrate as N in water	L078-PL	c
WS203	None Supplied	W	1639903	c	Nitrate in water	L078-PL	c
WS203	None Supplied	W	1639903	c	Nitrite as N in water	L082-PL	c
WS203	None Supplied	W	1639903	c	Nitrite in water	L082-PL	c
WS203	None Supplied	W	1639903	c	pH at 20oC in water (automated)	L099-PL	c

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



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Environmental Science

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Analytical Report Number : 20-33918

Project / Site name:	The London Resort	Samples received on:	02/10/2020
Your job number:		Samples instructed on/ Analysis started on:	07/10/2020
Your order number:		Analysis completed by:	16/10/2020
Report Issue Number:	1	Report issued on:	16/10/2020
Samples Analysed:	4 soil 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

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



Analytical Report Number: 20-33918
Project / Site name: The London Resort

Lab Sample Number				1640945	1640946	1640947	1640948
Sample Reference				SW004	SW005	SW009	SW002
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				30/10/2020	30/10/2020	30/10/2020	30/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	68	63	39	42
Total mass of sample received	kg	0,001	NONE	1,6	1,5	1,6	1,6

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

General Inorganics

	pH Units	N/A	MCERTS	10	8,5	8,4	8,2
pH - Automated							
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1
Organic Matter	%	0,1	MCERTS	11	4,6	1,7	5,7

Speciated PAHs

	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Naphthalene							
Acenaphthylene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Acenaphthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Fluorene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Phenanthrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Anthracene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Fluoranthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,34
Pyrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,29
Benzo(a)anthracene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,19
Chrysene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,28
Benzo(b)fluoranthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,34
Benzo(k)fluoranthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,19
Benzo(a)pyrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	0,31
Indeno(1,2,3-cd)pyrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Dibenz(a,h)anthracene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Benzo(ghi)perylene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0,8	MCERTS	< 0,80	< 0,80	< 0,80	1,94

Heavy Metals / Metalloids

	mg/kg	1	MCERTS	26	13	22	16
Arsenic (aqua regia extractable)							
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	75	41	60
Beryllium (aqua regia extractable)	mg/kg	0,06	MCERTS	0,82	0,25	1,3	1
Boron (water soluble)	mg/kg	0,2	MCERTS	2,9	3,1	3,2	3,1
Cadmium (aqua regia extractable)	mg/kg	0,2	MCERTS	6,7	0,6	< 0,2	< 0,2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	48	12	44	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	87	26	13	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240	28	56	56
Mercury (aqua regia extractable)	mg/kg	0,3	MCERTS	1,8	< 0,3	< 0,3	< 0,3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	30	14	30	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	6,5	4,2	< 1,0	1,5
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	78	29	80	63
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	330	87	87	99

Monoaromatics & Oxygenates

	µg/kg	1	MCERTS	< 1,0	< 1,0	< 1,0	< 1,0
Benzene							
Toluene	µg/kg	1	MCERTS	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/kg	1	MCERTS	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/kg	1	MCERTS	< 1,0	< 1,0	< 1,0	< 1,0



Analytical Report Number: 20-33918
 Project / Site name: The London Resort

Lab Sample Number				1640945	1640946	1640947	1640948
Sample Reference				SW004	SW005	SW009	SW002
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				30/10/2020	30/10/2020	30/10/2020	30/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.1	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	38	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	100	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	150	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	2	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10

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



Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically, (30 oC)	In house method.	L019-UK/PL	W	NONE

Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
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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 determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



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Environmental Science

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Analytical Report Number : 20-36002

Project / Site name:	The London REsort	Samples received on:	14/10/2020
Your job number:		Samples instructed on/ Analysis started on:	19/10/2020
Your order number:		Analysis completed by:	27/10/2020
Report Issue Number:	1	Report issued on:	27/10/2020
Samples Analysed:	2 soil samples - 5 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

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



Analytical Report Number: 20-36002
Project / Site name: The London RESort

Lab Sample Number		1653273	1653274	1653275	1653276
Sample Reference		BH706	BH707	SW012	SW014
Sample Number		None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)		29.27	19.41	None Supplied	None Supplied
Date Sampled		13/10/2020	13/10/2020	13/10/2020	13/10/2020
Time Taken		None Supplied	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	7.4	7.1	7.4	7.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	880	1100	2800	640
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	127	219	472	45.7
Chloride	mg/l	0.15	ISO 17025	56	60	360	38
Ammonia as NH3	µg/l	15	ISO 17025	< 15	< 15	3000	250
Ammonium as NH4	µg/l	15	ISO 17025	< 15	< 15	3200	260
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.2	0.4	5.2	0.5
Nitrate as N	mg/l	0.01	ISO 17025	17.1	16.1	0.2	5.93
Nitrate as NO3	mg/l	0.05	ISO 17025	75.6	71.2	0.88	26.3
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	9.6
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	31
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.1	< 1.0	7.4	5
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	420	660	1700	390
Hardness - Total	mgCaCO3/l	1	ISO 17025	525	663	357	362
Dissolved Oxygen	mg/l	1	NONE	7.5	5	1.2	5.6

Speciated PAHs

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

Total PAH

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

Boron (dissolved)	µg/l	10	ISO 17025	42	58	160	25
Calcium (dissolved)	mg/l	0.012	ISO 17025	190	250	120	140
Magnesium (dissolved)	mg/l	0.005	ISO 17025	10	12	12	4.9
Phosphorus (total)	µg/l	20	ISO 17025	340	1400	1600	50



Analytical Report Number: 20-36002
Project / Site name: The London RESort

Lab Sample Number	1653273				1653274				1653275				1653276			
Sample Reference	BH706				BH707				SW012				SW014			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	29.27				19.41				None Supplied				None Supplied			
Date Sampled	13/10/2020				13/10/2020				13/10/2020				13/10/2020			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status													
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.2	0.36	46.7	0.27									
Barium (dissolved)	µg/l	0.06	ISO 17025	47	45	62	37									
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1									
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02	< 0.02									
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.9	4	3.7	2.7									
Copper (dissolved)	µg/l	0.5	ISO 17025	2	2	3.9	2.9									
Lead (dissolved)	µg/l	0.2	ISO 17025	0.9	< 0.2	1	< 0.2									
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	0.06	< 0.05									
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.9	5.6	4.1	2									
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.2	1.9	12	0.9									
Vanadium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	3.8	0.5									
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.9	7.1	14	12									

Monoaromatics & Oxygenates

Parameter	Units	Limit of detection	Accreditation Status										
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						

Petroleum Hydrocarbons

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

Parameter	Units	Limit of detection	Accreditation Status										
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0						
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10						
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10						
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10						
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10						
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10						

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



Analytical Report Number: 20-36002
Project / Site name: The London RESort

Lab Sample Number	1653277			
Sample Reference	SW016			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	13/10/2020			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accred/ Station Status	Accred/ Station Status

General Inorganics

pH	pH Units	N/A	ISO 17025	7.6
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	670
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	44
Chloride	mg/l	0.15	ISO 17025	37
Ammonia as NH3	µg/l	15	ISO 17025	< 15
Ammonium as NH4	µg/l	15	ISO 17025	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	14
Nitrate as N	mg/l	0.01	ISO 17025	8.58
Nitrate as NO3	mg/l	0.05	ISO 17025	38
Nitrite as N	µg/l	1	ISO 17025	10
Nitrite as NO2	µg/l	5	ISO 17025	34
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	360
Hardness - Total	mgCaCO3/l	1	ISO 17025	378
Dissolved Oxygen	mg/l	1	NONE	9.1

Speciated PAHs

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

Total PAH

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

Boron (dissolved)	µg/l	10	ISO 17025	31
Calcium (dissolved)	mg/l	0.012	ISO 17025	140
Magnesium (dissolved)	mg/l	0.005	ISO 17025	4.9
Phosphorus (total)	µg/l	20	ISO 17025	64



Analytical Report Number: 20-36002
 Project / Site name: The London REsort

Lab Sample Number					1653277
Sample Reference					SW016
Sample Number					None Supplied
Depth (m)					None Supplied
Date Sampled					13/10/2020
Time Taken					None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation	
Arsenic (dissolved)	µg/l	0.15	ISO 17025		0.19
Barium (dissolved)	µg/l	0.06	ISO 17025		38
Beryllium (dissolved)	µg/l	0.1	ISO 17025		< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025		< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025		2.2
Copper (dissolved)	µg/l	0.5	ISO 17025		4.4
Lead (dissolved)	µg/l	0.2	ISO 17025		< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025		< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025		2.5
Selenium (dissolved)	µg/l	0.6	ISO 17025		1.1
Vanadium (dissolved)	µg/l	0.2	ISO 17025		< 0.2
Zinc (dissolved)	µg/l	0.5	ISO 17025		81

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

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



Analytical Report Number: 20-36002
Project / Site name: The London RESort

Lab Sample Number				1653278	1653279
Sample Reference				SW014	SW016
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				13/10/2020	13/10/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	20
Total mass of sample received	kg	0,001	NONE	1,6	1,5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	10,5	8,9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1
Organic Matter	%	0.1	MCERTS	1,5	2,4

Speciated PAHs

Compound	mg/kg	Limit	MCERTS	Sample 1	Sample 2
Naphthalene	mg/kg	0.05	MCERTS	< 0,05	< 0,05
Acenaphthylene	mg/kg	0.05	MCERTS	0,24	< 0,05
Acenaphthene	mg/kg	0.05	MCERTS	0,49	0,27
Fluorene	mg/kg	0.05	MCERTS	0,73	< 0,05
Phenanthrene	mg/kg	0.05	MCERTS	10	1,1
Anthracene	mg/kg	0.05	MCERTS	2,7	0,24
Fluoranthene	mg/kg	0.05	MCERTS	13	1,4
Pyrene	mg/kg	0.05	MCERTS	10	1,2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	5,9	0,76
Chrysene	mg/kg	0.05	MCERTS	4,3	0,57
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5	0,77
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2,1	0,37
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3,8	0,6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1,9	0,34
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0,05	< 0,05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2,1	0,41

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0,8	MCERTS	61,9	8,05

Heavy Metals / Metalloids

Element	mg/kg	Limit	MCERTS	Sample 1	Sample 2
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	7,7
Barium (aqua regia extractable)	mg/kg	1	MCERTS	90	96
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0,59	0,46
Boron (water soluble)	mg/kg	0.2	MCERTS	0,6	0,2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0,2	0,4
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	110
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	82	43
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0,3	< 0,3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	34
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1,0	< 1,0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	83	290

Monoaromatics & Oxygenates

Compound	µg/kg	Limit	MCERTS	Sample 1	Sample 2
Benzene	µg/kg	1	MCERTS	< 1,0	< 1,0
Toluene	µg/kg	1	MCERTS	< 1,0	< 1,0
Ethylbenzene	µg/kg	1	MCERTS	< 1,0	< 1,0
p & m-xylene	µg/kg	1	MCERTS	< 1,0	< 1,0
o-xylene	µg/kg	1	MCERTS	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1,0	< 1,0



Analytical Report Number: 20-36002
 Project / Site name: The London REsort

Lab Sample Number	1653278	1653279			
Sample Reference	SW014	SW016			
Sample Number	None Supplied	None Supplied			
Depth (m)	None Supplied	None Supplied			
Date Sampled	13/10/2020	13/10/2020			
Time Taken	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1,0	< 1,0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2,0	< 2,0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8,0	< 8,0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	15	170
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	15	180

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1,0	< 1,0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	11	2,6
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	73	10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	83	100
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	170	120

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



Analytical Report Number : 20-36002
Project / Site name: The London REsort

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, day and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1653278	SW014	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.
1653279	SW016	None Supplied	None Supplied	Brown loam and clay with gravel and vegetation.



Analytical Report Number : 20-36002
Project / Site name: The London RESort

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 soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically, (30 oC)	In house method.	L019-UK/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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025



Analytical Report Number : 20-36002
Project / Site name: The London RESort

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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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 soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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



Analytical Report Number : 20-36002
Project / Site name: The London REsort

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
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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.

Sample Deviation Report



Environmental Science

Analytical Report Number : 20-36002
Project / Site name: The London RESort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH706	None Supplied	W	1653273	c	Ammonia as NH3 in water	L082-PL	c
BH706	None Supplied	W	1653273	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH706	None Supplied	W	1653273	c	Ammonium as NH4 in water	L082-PL	c
BH706	None Supplied	W	1653273	c	Biological oxygen demand (total) of water	L086-PL	c
BH706	None Supplied	W	1653273	c	Dissolved Oxygen in water	L086-PL	c
BH706	None Supplied	W	1653273	c	Electrical conductivity at 20oC of water	L031-PL	c
BH706	None Supplied	W	1653273	c	Nitrate as N in water	L078-PL	c
BH706	None Supplied	W	1653273	c	Nitrate in water	L078-PL	c
BH706	None Supplied	W	1653273	c	Nitrite as N in water	L082-PL	c
BH706	None Supplied	W	1653273	c	Nitrite in water	L082-PL	c
BH706	None Supplied	W	1653273	c	pH at 20oC in water (automated)	L099-PL	c
BH707	None Supplied	W	1653274	c	Ammonia as NH3 in water	L082-PL	c
BH707	None Supplied	W	1653274	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH707	None Supplied	W	1653274	c	Ammonium as NH4 in water	L082-PL	c
BH707	None Supplied	W	1653274	c	Biological oxygen demand (total) of water	L086-PL	c
BH707	None Supplied	W	1653274	c	Dissolved Oxygen in water	L086-PL	c
BH707	None Supplied	W	1653274	c	Electrical conductivity at 20oC of water	L031-PL	c
BH707	None Supplied	W	1653274	c	Nitrate as N in water	L078-PL	c
BH707	None Supplied	W	1653274	c	Nitrate in water	L078-PL	c
BH707	None Supplied	W	1653274	c	Nitrite as N in water	L082-PL	c
BH707	None Supplied	W	1653274	c	Nitrite in water	L082-PL	c
BH707	None Supplied	W	1653274	c	pH at 20oC in water (automated)	L099-PL	c
SW012	None Supplied	W	1653275	c	Ammonia as NH3 in water	L082-PL	c
SW012	None Supplied	W	1653275	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW012	None Supplied	W	1653275	c	Ammonium as NH4 in water	L082-PL	c
SW012	None Supplied	W	1653275	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	None Supplied	W	1653275	c	Dissolved Oxygen in water	L086-PL	c
SW012	None Supplied	W	1653275	c	Electrical conductivity at 20oC of water	L031-PL	c
SW012	None Supplied	W	1653275	c	Nitrate as N in water	L078-PL	c
SW012	None Supplied	W	1653275	c	Nitrate in water	L078-PL	c
SW012	None Supplied	W	1653275	c	Nitrite as N in water	L082-PL	c
SW012	None Supplied	W	1653275	c	Nitrite in water	L082-PL	c
SW012	None Supplied	W	1653275	c	pH at 20oC in water (automated)	L099-PL	c
SW014	None Supplied	S	1653278	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
SW014	None Supplied	S	1653278	b	TPHCWG (Soil)	L088/76-PL	b
SW014	None Supplied	W	1653276	c	Ammonia as NH3 in water	L082-PL	c
SW014	None Supplied	W	1653276	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW014	None Supplied	W	1653276	c	Ammonium as NH4 in water	L082-PL	c
SW014	None Supplied	W	1653276	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	None Supplied	W	1653276	c	Dissolved Oxygen in water	L086-PL	c
SW014	None Supplied	W	1653276	c	Electrical conductivity at 20oC of water	L031-PL	c
SW014	None Supplied	W	1653276	c	Nitrate as N in water	L078-PL	c
SW014	None Supplied	W	1653276	c	Nitrate in water	L078-PL	c
SW014	None Supplied	W	1653276	c	Nitrite as N in water	L082-PL	c
SW014	None Supplied	W	1653276	c	Nitrite in water	L082-PL	c
SW014	None Supplied	W	1653276	c	pH at 20oC in water (automated)	L099-PL	c
SW016	None Supplied	S	1653279	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
SW016	None Supplied	S	1653279	b	TPHCWG (Soil)	L088/76-PL	b
SW016	None Supplied	W	1653277	c	Ammonia as NH3 in water	L082-PL	c
SW016	None Supplied	W	1653277	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW016	None Supplied	W	1653277	c	Ammonium as NH4 in water	L082-PL	c
SW016	None Supplied	W	1653277	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	None Supplied	W	1653277	c	Dissolved Oxygen in water	L086-PL	c
SW016	None Supplied	W	1653277	c	Electrical conductivity at 20oC of water	L031-PL	c
SW016	None Supplied	W	1653277	c	Nitrate as N in water	L078-PL	c
SW016	None Supplied	W	1653277	c	Nitrate in water	L078-PL	c
SW016	None Supplied	W	1653277	c	Nitrite as N in water	L082-PL	c
SW016	None Supplied	W	1653277	c	Nitrite in water	L082-PL	c
SW016	None Supplied	W	1653277	c	pH at 20oC in water (automated)	L099-PL	c

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



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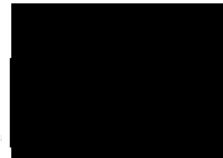
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Analytical Report Number : 20-36994

Project / Site name:	The London Resort	Samples received on:	21/10/2020
Your job number:		Samples instructed on/ Analysis started on:	22/10/2020
Your order number:		Analysis completed by:	02/11/2020
Report Issue Number:	1	Report issued on:	02/11/2020
Samples Analysed:	8 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: 20-36994
Project / Site name: The London Resort

Lab Sample Number	1659029	1659030	1659031	1659032
Sample Reference	SW002	SW004	SW005	SW007
Sample Number	SW002	SW004	SW005	SW007
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	1659029	1659030	1659031	1659032
pH	pH Units	N/A	ISO 17025	8	10.1	8.1	7.4
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	2000	5800	1400	2100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	122	969	251	517
Chloride	mg/l	0.15	ISO 17025	540	880	230	340
Ammonia as NH3	µg/l	15	ISO 17025	1000	220	120	170
Ammonium as NH4	µg/l	15	ISO 17025	1100	230	130	180
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1.7	3.8	0.9	1.1
Nitrate as N	mg/l	0.01	ISO 17025	0.09	0.1	4.63	0.09
Nitrate as NO3	mg/l	0.05	ISO 17025	0.39	0.44	20.5	0.39
Nitrite as N	µg/l	1	ISO 17025	8.8	45	45	8.1
Nitrite as NO2	µg/l	5	ISO 17025	29	150	150	27
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	7.2	2.5	3.8
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1100	3300	820	1100
Hardness - Total	mgCaCO3/l	1	ISO 17025	664	50.9	414	715
Dissolved Oxygen	mg/l	1	NONE	4.6	1.4	5.5	< 1.0

Speciated PAHs

Parameter	Units	Limit of detection	Accreditation Status	1659029	1659030	1659031	1659032
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Parameter	Units	Limit of detection	Accreditation Status	1659029	1659030	1659031	1659032
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16



Analytical Report Number: 20-36994
Project / Site name: The London Resort

Lab Sample Number				1659029	1659030	1659031	1659032
Sample Reference				SW002	SW004	SW005	SW007
Sample Number				SW002	SW004	SW005	SW007
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				20/10/2020	20/10/2020	20/10/2020	20/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

	µg/l	10	ISO 17025	200	83	120	180
Boron (dissolved)	µg/l	0.012	ISO 17025	170	12	140	230
Calcium (dissolved)	mg/l	0.005	ISO 17025	59	5.1	15	35
Magnesium (dissolved)	µg/l	20	ISO 17025	240	57	840	2300

Phosphorus (total)	µg/l	20	ISO 17025	240	57	840	2300
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	7.99	52.5	17	6.4
Barium (dissolved)	µg/l	0.06	ISO 17025	57	7.2	38	89
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.15	0.03	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	8.3	9.1	6.7	7
Copper (dissolved)	µg/l	0.5	ISO 17025	4.5	8.7	7.3	4.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.4	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.4	23	5.7	9.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	5.7	31	4.7	7.5
Vanadium (dissolved)	µg/l	0.2	ISO 17025	3.3	120	7.1	11
Zinc (dissolved)	µg/l	0.5	ISO 17025	28	3.4	9.7	5.3

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number: 20-36994
Project / Site name: The London Resort

Lab Sample Number	1659033			1659034	1659035	1659036
Sample Reference	SW009			SW012	SW014	SW016
Sample Number	SW009			SW012	SW014	SW016
Depth (m)	None Supplied			None Supplied	None Supplied	None Supplied
Date Sampled	20/10/2020			20/10/2020	20/10/2020	20/10/2020
Time Taken	None Supplied			None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

	pH Units	N/A	ISO 17025	7.9	8	7.8	7.9
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	3200	2200	550	630
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	393	544	46	45.8
Chloride	mg/l	0.15	ISO 17025	1200	310	36	36
Ammonia as NH3	µg/l	15	ISO 17025	1100	2400	140	< 15
Ammonium as NH4	µg/l	15	ISO 17025	1100	2600	150	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1.3	2.2	0.9	0.2
Nitrate as N	mg/l	0.01	ISO 17025	0.35	0.99	8.31	9.98
Nitrate as NO3	mg/l	0.05	ISO 17025	1.57	4.36	36.8	44.2
Nitrite as N	µg/l	1	ISO 17025	140	150	70	7.5
Nitrite as NO2	µg/l	5	ISO 17025	450	500	230	25
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	5.2	22	5.7	1.3
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1900	1300	250	480
Hardness - Total	mgCaCO3/l	1	ISO 17025	913	366	329	404
Dissolved Oxygen	mg/l	1	NONE	5	1.4	8.1	10

Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 20-36994
Project / Site name: The London Resort

Lab Sample Number				1659033	1659034	1659035	1659036
Sample Reference				SW009	SW012	SW014	SW016
Sample Number				SW009	SW012	SW014	SW016
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				20/10/2020	20/10/2020	20/10/2020	20/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

	µg/l	10	ISO 17025	1400	140	22	35
Boron (dissolved)	µg/l	0.012	ISO 17025	220	130	120	150
Calcium (dissolved)	mg/l	0.005	ISO 17025	86	12	5.4	5.4
Magnesium (dissolved)	µg/l	20	ISO 17025	41	630	27	75

Phosphorus (total)	µg/l	20	ISO 17025	41	630	27	75
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	21.4	27.9	2.09	1.84
Barium (dissolved)	µg/l	0.06	ISO 17025	140	51	34	36
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.53	0.03	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	9.1	7.1	4.7	6.5
Copper (dissolved)	µg/l	0.5	ISO 17025	15	3.7	3.3	3.3
Lead (dissolved)	µg/l	0.2	ISO 17025	3.9	0.3	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.45	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	14	8.3	5.5	7
Selenium (dissolved)	µg/l	0.6	ISO 17025	8.6	8.5	2.6	2.7
Vanadium (dissolved)	µg/l	0.2	ISO 17025	7.1	5.1	6.8	6.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	88	8.4	5.2	8.5

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 20-36994
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination,	In house method based on BS 7755-3.7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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 : 20-36994
Project / Site name: The London Resort

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
Ammonium as NH ₄ 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
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Analytical Report Number : 20-36994
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	SW002	W	1659029	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	SW002	W	1659029	c	Dissolved Oxygen in water	L086-PL	c
SW004	SW004	W	1659030	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	SW004	W	1659030	c	Dissolved Oxygen in water	L086-PL	c
SW005	SW005	W	1659031	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	SW005	W	1659031	c	Dissolved Oxygen in water	L086-PL	c
SW007	SW007	W	1659032	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	SW007	W	1659032	c	Dissolved Oxygen in water	L086-PL	c
SW009	SW009	W	1659033	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	SW009	W	1659033	c	Dissolved Oxygen in water	L086-PL	c
SW012	SW012	W	1659034	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	SW012	W	1659034	c	Dissolved Oxygen in water	L086-PL	c
SW014	SW014	W	1659035	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	SW014	W	1659035	c	Dissolved Oxygen in water	L086-PL	c
SW016	SW016	W	1659036	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	SW016	W	1659036	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 20-37030

Project / Site name:	London Resort	Samples received on:	22/10/2020
Your job number:		Samples instructed on/ Analysis started on:	22/10/2020
Your order number:		Analysis completed by:	02/11/2020
Report Issue Number:	1	Report issued on:	02/11/2020
Samples Analysed:	6 water samples		

Signed:

Will Fardon
Technical Reviewer (CS 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: 20-37030
Project / Site name: London Resort

Lab Sample Number	1659307	1659308	1659309	1659310
Sample Reference	WS203	WS202	WS102	WS101
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	8.39-10.90	4.35-30.30	4.25-5.41	4.29-5.35
Date Sampled	21/10/2020	21/10/2020	21/10/2020	21/10/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

Parameter	Units	N/A	ISO 17025	13	13	12.6	8.1
pH	pH Units	N/A	ISO 17025	13	13	12.6	8.1
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	37000	55000	18000	82000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	6840000	13600000	804000	12700000
Sulphate as SO4	mg/l	0,045	ISO 17025	6840	13600	804	12700
Chloride	mg/l	0,15	ISO 17025	3500	3700	1800	18000
Ammonia as NH3	µg/l	15	ISO 17025	36000	27000	2400	430
Ammonium as NH4	µg/l	15	ISO 17025	38000	28000	2500	460
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	31	20	1,4	77
Nitrate as N	mg/l	0,01	ISO 17025	0,39	0,17	0,5	0,44
Nitrate as NO3	mg/l	0,05	ISO 17025	1,72	0,74	2,21	1,96
Nitrite as N	µg/l	1	ISO 17025	130	680	420	18
Nitrite as NO2	µg/l	5	ISO 17025	440	2200	1400	60
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	60	5,6	6,8	15
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	24000	41000	7800	U/S
Hardness - Total	mgCaCO3/l	1	ISO 17025	2,1	2,6	20	1370
Dissolved Oxygen	mg/l	1	NONE	< 1,0	2	5,5	< 1,0

Speciated PAHs

Parameter	Units	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16
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Heavy Metals / Metalloids

Parameter	Units	1	ISO 17025	12	60	7,7	21
Arsenic (dissolved)	µg/l	1	ISO 17025	12	60	7,7	21
Barium (dissolved)	µg/l	0,05	ISO 17025	9,4	13	39	60
Beryllium (dissolved)	µg/l	0,2	ISO 17025	< 0,2	< 0,2	< 0,2	< 0,2
Boron (dissolved)	µg/l	10	ISO 17025	110	84	19	870
Cadmium (dissolved)	µg/l	0,08	ISO 17025	< 0,08	< 0,08	< 0,08	0,4
Calcium (dissolved)	mg/l	0,012	ISO 17025	0,84	1	8	140
Chromium (dissolved)	µg/l	0,4	ISO 17025	7,6	12	35	18
Copper (dissolved)	µg/l	0,7	ISO 17025	4,6	6,9	28	23
Lead (dissolved)	µg/l	1	ISO 17025	1,4	3,8	4,9	7,7
Magnesium (dissolved)	mg/l	0,005	ISO 17025	0,006	< 0,005	0,008	240



Analytical Report Number: 20-37030
Project / Site name: London Resort

Lab Sample Number				1659307	1659308	1659309	1659310
Sample Reference				WS203	WS202	WS102	WS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				8.39-10.90	4.35-30.30	4.25-5.41	4.29-5.35
Date Sampled				21/10/2020	21/10/2020	21/10/2020	21/10/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Mercury (dissolved)	µg/l	0,5	ISO 17025	< 0,5	< 0,5	< 0,5	< 0,5
Nickel (dissolved)	µg/l	0,3	ISO 17025	500	140	5	12
Selenium (dissolved)	µg/l	4	ISO 17025	180	410	< 4,0	< 4,0
Vanadium (dissolved)	µg/l	1,7	ISO 17025	220	220	29	27
Zinc (dissolved)	µg/l	0,4	ISO 17025	3,4	4,9	13	16
Phosphorus (total)	µg/l	20	ISO 17025	130	150	610	16000

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number: 20-37030
Project / Site name: London Resort

Lab Sample Number				1659311	1659312
Sample Reference				BH101	BH202
Sample Number				None Supplied	None Supplied
Depth (m)				5.23-39.11	None Supplied
Date Sampled				21/10/2020	21/10/2020
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	7.3	7.2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	15000	8100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	965000	491000
Sulphate as SO4	mg/l	0,045	ISO 17025	965	491
Chloride	mg/l	0,15	ISO 17025	6300	3900
Ammonia as NH3	µg/l	15	ISO 17025	7900	5500
Ammonium as NH4	µg/l	15	ISO 17025	8400	5800
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	3,1	2
Nitrate as N	mg/l	0,01	ISO 17025	0,22	0,17
Nitrate as NO3	mg/l	0,05	ISO 17025	0,98	0,74
Nitrite as N	µg/l	1	ISO 17025	6,5	32
Nitrite as NO2	µg/l	5	ISO 17025	21	100
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	16	12
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	15000	8300
Hardness - Total	mgCaCO3/l	1	ISO 17025	3100	2050
Dissolved Oxygen	mg/l	1	NONE	< 1,0	< 1,0

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	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01
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
Dibenzo(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	< 0,16
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	4,6	4,3
Barium (dissolved)	µg/l	0,05	ISO 17025	150	160
Beryllium (dissolved)	µg/l	0,2	ISO 17025	< 0,2	< 0,2
Boron (dissolved)	µg/l	10	ISO 17025	1400	630
Cadmium (dissolved)	µg/l	0,08	ISO 17025	< 0,08	< 0,08
Calcium (dissolved)	mg/l	0,012	ISO 17025	320	450
Chromium (dissolved)	µg/l	0,4	ISO 17025	0,6	0,4
Copper (dissolved)	µg/l	0,7	ISO 17025	8,1	9,6
Lead (dissolved)	µg/l	1	ISO 17025	4,7	4,1
Magnesium (dissolved)	mg/l	0,005	ISO 17025	560	230



Analytical Report Number: 20-37030
Project / Site name: London Resort

Lab Sample Number	1659311			1659312	
Sample Reference	BH101			BH202	
Sample Number	None Supplied			None Supplied	
Depth (m)	5.23-39.11			None Supplied	
Date Sampled	21/10/2020			21/10/2020	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Mercury (dissolved)	µg/l	0,5	ISO 17025	< 0,5	< 0,5
Nickel (dissolved)	µg/l	0,3	ISO 17025	8,1	4,2
Selenium (dissolved)	µg/l	4	ISO 17025	< 4,0	< 4,0
Vanadium (dissolved)	µg/l	1,7	ISO 17025	< 1,7	< 1,7
Zinc (dissolved)	µg/l	0,4	ISO 17025	13	14
Phosphorus (total)	µg/l	20	ISO 17025	440	230

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	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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



Analytical Report Number : 20-37030
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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-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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium, Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphamide 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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 20-37030
Project / Site name: London Resort

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 sulphamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Cusceri, 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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Analytical Report Number : 20-37030
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1659311	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1659311	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1659312	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1659312	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1659310	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1659310	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1659309	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1659309	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1659308	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	None Supplied	W	1659308	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1659307	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1659307	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 20-38435

Project / Site name:	The London Resort	Samples received on:	23/10/2020
Your job number:		Samples instructed on/ Analysis started on:	30/10/2020
Your order number:		Analysis completed by:	09/11/2020
Report Issue Number:	1	Report issued on:	09/11/2020
Samples Analysed:	11 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

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



Environmental Science

Analytical Report Number: 20-38435
Project / Site name: The London Resort

Lab Sample Number	1667801	1667802	1667803	1667804
Sample Reference	BH502	BH501	SW013	BH704
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	12.81-19.80	12.15-19.30	None Supplied	4.57-5.09
Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020
Time Taken	None Supplied	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	7.2	8	6.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1900	770	670	1300
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	414	146	121	368
Chloride	mg/l	0,15	ISO 17025	420	50	54	120
Ammonia as NH3	µg/l	15	ISO 17025	120	84	320	140
Ammonium as NH4	µg/l	15	ISO 17025	120	89	340	150
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	< 0,1	0,1	0,3	< 0,1
Nitrate as N	mg/l	0,01	ISO 17025	15,2	12,3	1,15	34
Nitrate as NO3	mg/l	0,05	ISO 17025	67,3	54,5	5,1	151
Nitrite as N	µg/l	1	ISO 17025	20	20	49	25
Nitrite as NO2	µg/l	5	ISO 17025	64	66	160	82
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,2	< 1,0	1,2	38
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1100	490	410	790
Hardness - Total	mgCaCO3/l	1	ISO 17025	973	581	342	1220
Dissolved Oxygen	mg/l	1	NONE	5,3	5,5	6,6	3,3

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16
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Analytical Report Number: 20-38435
Project / Site name: The London Resort

Lab Sample Number	1667801	1667802	1667803	1667804
Sample Reference	BH502	BH501	SW013	BH704
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	12.81-19.80	12.15-19.30	None Supplied	4.57-5.09
Date Sampled	23/10/2020	23/10/2020	23/10/2020	23/10/2020
Time Taken	None Supplied	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	340	130	99	64
Calcium (dissolved)	mg/l	0.012	ISO 17025	360	210	120	470
Magnesium (dissolved)	mg/l	0.005	ISO 17025	17	11	11	15

Phosphorus (total)	µg/l	20	ISO 17025	1100	1400	< 20	27000
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	4.03	0.97	1.53	2.17
Barium (dissolved)	µg/l	0.06	ISO 17025	56	41	39	120
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.15
Chromium (dissolved)	µg/l	0.2	ISO 17025	16	4.1	2.7	7.9
Copper (dissolved)	µg/l	0.5	ISO 17025	5.1	2.5	2.9	7.8
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.4	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.5	5.2	3.8	12
Selenium (dissolved)	µg/l	0.6	ISO 17025	17	4	2	7
Vanadium (dissolved)	µg/l	0.2	ISO 17025	5.8	1.5	2.3	3.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	11	16	24	44

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number: 20-38435
Project / Site name: The London Resort

Lab Sample Number	1667805	1667806	1667807	1667808
Sample Reference	SW015	BH201	BH203	BH204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	4.27-6.81	3.54-12.21	3.50-12.54
Date Sampled	23/10/2020	22/10/2020	22/10/2020	22/10/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	7.5	11.7	6.7	7.3
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	310	3800	1700	940
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	44,9	475	1300	59,9
Chloride	mg/l	0,15	ISO 17025	12	270	240	160
Ammonia as NH3	µg/l	15	ISO 17025	250	2500	3800	1200
Ammonium as NH4	µg/l	15	ISO 17025	260	2600	4000	1300
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,4	1,1	1,3	0,6
Nitrate as N	mg/l	0,01	ISO 17025	0,1	0,41	0,32	0,07
Nitrate as NO3	mg/l	0,05	ISO 17025	0,44	1,81	1,42	0,29
Nitrite as N	µg/l	1	ISO 17025	25	660	37	27
Nitrite as NO2	µg/l	5	ISO 17025	84	2200	120	88
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	3,7	4	4,1	3,6
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	210	2100	1000	550
Hardness - Total	mgCaCO3/l	1	ISO 17025	197	27,6	2000	412
Dissolved Oxygen	mg/l	1	NONE	1,7	1,4	< 1,0	1,1

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16
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Analytical Report Number: 20-38435
Project / Site name: The London Resort

Lab Sample Number				1667805	1667806	1667807	1667808
Sample Reference				SW015	BH201	BH203	BH204
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	4.27-6.81	3.54-12.21	3.50-12.54
Date Sampled				23/10/2020	22/10/2020	22/10/2020	22/10/2020
Time Taken				None Supplied	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	49	96	640	340
Calcium (dissolved)	mg/l	0.012	ISO 17025	74	11	600	100
Magnesium (dissolved)	mg/l	0.005	ISO 17025	3	0.02	120	37

Phosphorus (total)	µg/l	20	ISO 17025	320	190	1400	460
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.57	37.7	3.52	2.34
Barium (dissolved)	µg/l	0.06	ISO 17025	28	12	49	52
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.09	< 0.02	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.8	5.9	9.4	5.3
Copper (dissolved)	µg/l	0.5	ISO 17025	3.1	19	6.5	7.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	2.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.15	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.5	15	19	8.7
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	18	12	3.4
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.5	250	2.6	3
Zinc (dissolved)	µg/l	0.5	ISO 17025	16	7	9.3	17

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number: 20-38435
 Project / Site name: The London Resort

Lab Sample Number	1667809			1667810	1667811
Sample Reference	BH705			BH707	BH5706
Sample Number	None Supplied			None Supplied	None Supplied
Depth (m)	2.84-19.00			11.70-19.41	6.84-29.27
Date Sampled	22/10/2020			22/10/2020	22/10/2020
Time Taken	None Supplied			None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	Units	Limit of detection	Accreditation Status	1667809	1667810	1667811
pH	pH Units	N/A	ISO 17025	7.3	7.1	7.3
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	680	750	660
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	155	203	143
Chloride	mg/l	0,15	ISO 17025	56	52	48
Ammonia as NH3	µg/l	15	ISO 17025	340	230	230
Ammonium as NH4	µg/l	15	ISO 17025	360	240	250
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,1	0,1	0,2
Nitrate as N	mg/l	0,01	ISO 17025	17	11,5	13,4
Nitrate as NO3	mg/l	0,05	ISO 17025	75,4	50,9	59,4
Nitrite as N	µg/l	1	ISO 17025	25	23	18
Nitrite as NO2	µg/l	5	ISO 17025	84	76	60
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	420	420	310
Hardness - Total	mgCaCO3/l	1	ISO 17025	609	664	599
Dissolved Oxygen	mg/l	1	NONE	7,8	5,5	7,4

Speciated PAHs

	Units	Limit of detection	Accreditation Status	1667809	1667810	1667811
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Dibenz(a,h)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01

Total PAH

	Units	Limit of detection	Accreditation Status	1667809	1667810	1667811
Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16



Analytical Report Number: 20-38435
Project / Site name: The London Resort

Lab Sample Number				1667809	1667810	1667811
Sample Reference				BH705	BH707	BH5706
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				2.84-19.00	11.70-19.41	6.84-29.27
Date Sampled				22/10/2020	22/10/2020	22/10/2020
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	50	60	52
Calcium (dissolved)	mg/l	0.012	ISO 17025	230	250	220
Magnesium (dissolved)	mg/l	0.005	ISO 17025	8.1	12	11

Phosphorus (total)	µg/l	20	ISO 17025	400	220	370
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.66	0.62	0.48
Barium (dissolved)	µg/l	0.06	ISO 17025	50	50	48
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	3.6	4.6	3.9
Copper (dissolved)	µg/l	0.5	ISO 17025	2.2	2.9	3.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	0.8
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4	6.5	3.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.5	2	1.3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.9	0.6	0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.8	5.1	9.6

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	< 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	< 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	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

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



Analytical Report Number : 20-38435
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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



Analytical Report Number : 20-38435
 Project / Site name: The London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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 sulphaniamide 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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Environmental Science

Analytical Report Number : 20-38435
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH201	None Supplied	W	1667806	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH201	None Supplied	W	1667806	c	Ammonia as NH3 in water	L082-PL	c
BH201	None Supplied	W	1667806	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH201	None Supplied	W	1667806	c	Ammonium as NH4 in water	L082-PL	c
BH201	None Supplied	W	1667806	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1667806	c	Boron in water	L039-PL	c
BH201	None Supplied	W	1667806	c	Dissolved Oxygen in water	L086-PL	c
BH201	None Supplied	W	1667806	c	Electrical conductivity at 20oC of water	L031-PL	c
BH201	None Supplied	W	1667806	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH201	None Supplied	W	1667806	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH201	None Supplied	W	1667806	c	Metals in water by ICP-OES (total)	L039-PL	c
BH201	None Supplied	W	1667806	c	Nitrate as N in water	L078-PL	c
BH201	None Supplied	W	1667806	c	Nitrate in water	L078-PL	c
BH201	None Supplied	W	1667806	c	Nitrite as N in water	L082-PL	c
BH201	None Supplied	W	1667806	c	Nitrite in water	L082-PL	c
BH201	None Supplied	W	1667806	c	Sulphate in water	L039-PL	c
BH201	None Supplied	W	1667806	c	Total Hardness of water	L045-PL	c
BH201	None Supplied	W	1667806	c	Total cyanide in water	L080-PL	c
BH201	None Supplied	W	1667806	c	pH at 20oC in water (automated)	L099-PL	c
BH203	None Supplied	W	1667807	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH203	None Supplied	W	1667807	c	Ammonia as NH3 in water	L082-PL	c
BH203	None Supplied	W	1667807	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	None Supplied	W	1667807	c	Ammonium as NH4 in water	L082-PL	c
BH203	None Supplied	W	1667807	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1667807	c	Boron in water	L039-PL	c
BH203	None Supplied	W	1667807	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1667807	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	None Supplied	W	1667807	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH203	None Supplied	W	1667807	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH203	None Supplied	W	1667807	c	Metals in water by ICP-OES (total)	L039-PL	c
BH203	None Supplied	W	1667807	c	Nitrate as N in water	L078-PL	c
BH203	None Supplied	W	1667807	c	Nitrate in water	L078-PL	c
BH203	None Supplied	W	1667807	c	Nitrite as N in water	L082-PL	c
BH203	None Supplied	W	1667807	c	Nitrite in water	L082-PL	c
BH203	None Supplied	W	1667807	c	Sulphate in water	L039-PL	c
BH203	None Supplied	W	1667807	c	Total Hardness of water	L045-PL	c
BH203	None Supplied	W	1667807	c	Total cyanide in water	L080-PL	c
BH203	None Supplied	W	1667807	c	pH at 20oC in water (automated)	L099-PL	c
BH204	None Supplied	W	1667808	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH204	None Supplied	W	1667808	c	Ammonia as NH3 in water	L082-PL	c
BH204	None Supplied	W	1667808	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH204	None Supplied	W	1667808	c	Ammonium as NH4 in water	L082-PL	c
BH204	None Supplied	W	1667808	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1667808	c	Boron in water	L039-PL	c
BH204	None Supplied	W	1667808	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1667808	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	None Supplied	W	1667808	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH204	None Supplied	W	1667808	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH204	None Supplied	W	1667808	c	Metals in water by ICP-OES (total)	L039-PL	c
BH204	None Supplied	W	1667808	c	Nitrate as N in water	L078-PL	c
BH204	None Supplied	W	1667808	c	Nitrate in water	L078-PL	c
BH204	None Supplied	W	1667808	c	Nitrite as N in water	L082-PL	c
BH204	None Supplied	W	1667808	c	Nitrite in water	L082-PL	c
BH204	None Supplied	W	1667808	c	Sulphate in water	L039-PL	c
BH204	None Supplied	W	1667808	c	Total Hardness of water	L045-PL	c
BH204	None Supplied	W	1667808	c	Total cyanide in water	L080-PL	c
BH204	None Supplied	W	1667808	c	pH at 20oC in water (automated)	L099-PL	c

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

Sample Deviation Report



Environmental Science

Analytical Report Number : 20-38435
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH201	None Supplied	W	1667806	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH501	None Supplied	W	1667802	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1667802	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH501	None Supplied	W	1667802	c	Ammonium as NH4 in water	L082-PL	c
BH501	None Supplied	W	1667802	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	None Supplied	W	1667802	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1667802	c	Electrical conductivity at 20oC of water	L031-PL	c
BH501	None Supplied	W	1667802	c	Nitrate as N in water	L078-PL	c
BH501	None Supplied	W	1667802	c	Nitrate in water	L078-PL	c
BH501	None Supplied	W	1667802	c	Nitrite as N in water	L082-PL	c
BH501	None Supplied	W	1667802	c	Nitrite in water	L082-PL	c
BH501	None Supplied	W	1667802	c	pH at 20oC in water (automated)	L099-PL	c
BH502	None Supplied	W	1667801	c	Ammonia as NH3 in water	L082-PL	c
BH502	None Supplied	W	1667801	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH502	None Supplied	W	1667801	c	Ammonium as NH4 in water	L082-PL	c
BH502	None Supplied	W	1667801	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1667801	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1667801	c	Electrical conductivity at 20oC of water	L031-PL	c
BH502	None Supplied	W	1667801	c	Nitrate as N in water	L078-PL	c
BH502	None Supplied	W	1667801	c	Nitrate in water	L078-PL	c
BH502	None Supplied	W	1667801	c	Nitrite as N in water	L082-PL	c
BH502	None Supplied	W	1667801	c	Nitrite in water	L082-PL	c
BH502	None Supplied	W	1667801	c	pH at 20oC in water (automated)	L099-PL	c
BH5706	None Supplied	W	1667811	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH5706	None Supplied	W	1667811	c	Ammonia as NH3 in water	L082-PL	c
BH5706	None Supplied	W	1667811	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH5706	None Supplied	W	1667811	c	Ammonium as NH4 in water	L082-PL	c
BH5706	None Supplied	W	1667811	c	Biological oxygen demand (total) of water	L086-PL	c
BH5706	None Supplied	W	1667811	c	Boron in water	L039-PL	c
BH5706	None Supplied	W	1667811	c	Dissolved Oxygen in water	L086-PL	c
BH5706	None Supplied	W	1667811	c	Electrical conductivity at 20oC of water	L031-PL	c
BH5706	None Supplied	W	1667811	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH5706	None Supplied	W	1667811	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH5706	None Supplied	W	1667811	c	Metals in water by ICP-OES (total)	L039-PL	c
BH5706	None Supplied	W	1667811	c	Nitrate as N in water	L078-PL	c
BH5706	None Supplied	W	1667811	c	Nitrate in water	L078-PL	c
BH5706	None Supplied	W	1667811	c	Nitrite as N in water	L082-PL	c
BH5706	None Supplied	W	1667811	c	Nitrite in water	L082-PL	c
BH5706	None Supplied	W	1667811	c	Sulphate in water	L039-PL	c
BH5706	None Supplied	W	1667811	c	Total Hardness of water	L045-PL	c
BH5706	None Supplied	W	1667811	c	Total cyanide in water	L080-PL	c
BH5706	None Supplied	W	1667811	c	pH at 20oC in water (automated)	L099-PL	c
BH704	None Supplied	W	1667804	c	Ammonia as NH3 in water	L082-PL	c
BH704	None Supplied	W	1667804	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH704	None Supplied	W	1667804	c	Ammonium as NH4 in water	L082-PL	c
BH704	None Supplied	W	1667804	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	None Supplied	W	1667804	c	Dissolved Oxygen in water	L086-PL	c
BH704	None Supplied	W	1667804	c	Electrical conductivity at 20oC of water	L031-PL	c
BH704	None Supplied	W	1667804	c	Nitrate as N in water	L078-PL	c
BH704	None Supplied	W	1667804	c	Nitrate in water	L078-PL	c
BH704	None Supplied	W	1667804	c	Nitrite as N in water	L082-PL	c
BH704	None Supplied	W	1667804	c	Nitrite in water	L082-PL	c
BH704	None Supplied	W	1667804	c	pH at 20oC in water (automated)	L099-PL	c
BH705	None Supplied	W	1667809	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH705	None Supplied	W	1667809	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1667809	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	None Supplied	W	1667809	c	Ammonium as NH4 in water	L082-PL	c

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

Sample Deviation Report



Environmental Science

Analytical Report Number : 20-38435
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH201	None Supplied	W	1667806	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH705	None Supplied	W	1667809	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	None Supplied	W	1667809	c	Boron in water	L039-PL	c
BH705	None Supplied	W	1667809	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1667809	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	None Supplied	W	1667809	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH705	None Supplied	W	1667809	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH705	None Supplied	W	1667809	c	Metals in water by ICP-OES (total)	L039-PL	c
BH705	None Supplied	W	1667809	c	Nitrate as N in water	L078-PL	c
BH705	None Supplied	W	1667809	c	Nitrate in water	L078-PL	c
BH705	None Supplied	W	1667809	c	Nitrite as N in water	L082-PL	c
BH705	None Supplied	W	1667809	c	Nitrite in water	L082-PL	c
BH705	None Supplied	W	1667809	c	Sulphate in water	L039-PL	c
BH705	None Supplied	W	1667809	c	Total Hardness of water	L045-PL	c
BH705	None Supplied	W	1667809	c	Total cyanide in water	L080-PL	c
BH705	None Supplied	W	1667809	c	pH at 20oC in water (automated)	L099-PL	c
BH707	None Supplied	W	1667810	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH707	None Supplied	W	1667810	c	Ammonia as NH3 in water	L082-PL	c
BH707	None Supplied	W	1667810	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH707	None Supplied	W	1667810	c	Ammonium as NH4 in water	L082-PL	c
BH707	None Supplied	W	1667810	c	Biological oxygen demand (total) of water	L086-PL	c
BH707	None Supplied	W	1667810	c	Boron in water	L039-PL	c
BH707	None Supplied	W	1667810	c	Dissolved Oxygen in water	L086-PL	c
BH707	None Supplied	W	1667810	c	Electrical conductivity at 20oC of water	L031-PL	c
BH707	None Supplied	W	1667810	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH707	None Supplied	W	1667810	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH707	None Supplied	W	1667810	c	Metals in water by ICP-OES (total)	L039-PL	c
BH707	None Supplied	W	1667810	c	Nitrate as N in water	L078-PL	c
BH707	None Supplied	W	1667810	c	Nitrate in water	L078-PL	c
BH707	None Supplied	W	1667810	c	Nitrite as N in water	L082-PL	c
BH707	None Supplied	W	1667810	c	Nitrite in water	L082-PL	c
BH707	None Supplied	W	1667810	c	Sulphate in water	L039-PL	c
BH707	None Supplied	W	1667810	c	Total Hardness of water	L045-PL	c
BH707	None Supplied	W	1667810	c	Total cyanide in water	L080-PL	c
BH707	None Supplied	W	1667810	c	pH at 20oC in water (automated)	L099-PL	c
SW013	None Supplied	W	1667803	c	Ammonia as NH3 in water	L082-PL	c
SW013	None Supplied	W	1667803	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW013	None Supplied	W	1667803	c	Ammonium as NH4 in water	L082-PL	c
SW013	None Supplied	W	1667803	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	None Supplied	W	1667803	c	Dissolved Oxygen in water	L086-PL	c
SW013	None Supplied	W	1667803	c	Electrical conductivity at 20oC of water	L031-PL	c
SW013	None Supplied	W	1667803	c	Nitrate as N in water	L078-PL	c
SW013	None Supplied	W	1667803	c	Nitrate in water	L078-PL	c
SW013	None Supplied	W	1667803	c	Nitrite as N in water	L082-PL	c
SW013	None Supplied	W	1667803	c	Nitrite in water	L082-PL	c
SW013	None Supplied	W	1667803	c	pH at 20oC in water (automated)	L099-PL	c
SW015	None Supplied	W	1667805	c	Ammonia as NH3 in water	L082-PL	c
SW015	None Supplied	W	1667805	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW015	None Supplied	W	1667805	c	Ammonium as NH4 in water	L082-PL	c
SW015	None Supplied	W	1667805	c	Biological oxygen demand (total) of water	L086-PL	c
SW015	None Supplied	W	1667805	c	Dissolved Oxygen in water	L086-PL	c
SW015	None Supplied	W	1667805	c	Electrical conductivity at 20oC of water	L031-PL	c
SW015	None Supplied	W	1667805	c	Nitrate as N in water	L078-PL	c
SW015	None Supplied	W	1667805	c	Nitrate in water	L078-PL	c
SW015	None Supplied	W	1667805	c	Nitrite as N in water	L082-PL	c
SW015	None Supplied	W	1667805	c	Nitrite in water	L082-PL	c
SW015	None Supplied	W	1667805	c	pH at 20oC in water (automated)	L099-PL	c

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



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Analytical Report Number : 20-42107

Project / Site name:	The London Resort	Samples received on:	19/11/2020
Your job number:		Samples instructed on/ Analysis started on:	19/11/2020
Your order number:		Analysis completed by:	01/12/2020
Report Issue Number:	1	Report issued on:	01/12/2020
Samples Analysed:	20 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

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



Analytical Report Number: 20-42107
 Project / Site name: The London Resort

Lab Sample Number	1688320	1688321	1688322	1688323
Sample Reference	WS101	WS102	BH101	WS202
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	4.20-5.34	4.17-5.42	5.94-39.15	8.46-10.91
Date Sampled	16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	8,7	12,8	7,2	13,1
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	110000	13000	24000	61000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	12500*	697	1140	13700*
Chloride	mg/l	0,15	ISO 17025	17000	1700	7300	4000
Ammonia as NH3	µg/l	15	ISO 17025	350000	2800	9200	44000
Ammonium as NH4	µg/l	15	ISO 17025	370000	2900	9700	47000
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	52	0,8	2,7	9,4
Nitrate as N	mg/l	0,01	ISO 17025	1	0,62	0,4	0,26
Nitrate as NO3	mg/l	0,05	ISO 17025	4,44	2,74	1,76	1,14
Nitrite as N	µg/l	1	ISO 17025	< 1.0	370	< 1.0	12
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	1200	< 5.0	38
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2,9	< 1.0	< 1.0	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	65000	7700	14000	23000
Hardness - Total	mgCaCO3/l	1	ISO 17025	1400	22	3300	25,7
Dissolved Oxygen	mg/l	1	NONE	1,3	6,6	1,6	2,4

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16
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Environmental Science

Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688320	1688321	1688322	1688323
Sample Reference	WS101	WS102	BH101	WS202
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	4.20-5.34	4.17-5.42	5.94-39.15	8.46-10.91
Date Sampled	16/11/2020	16/11/2020	16/11/2020	16/11/2020
Time Taken	None Supplied	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	930	34	1400	88
Calcium (dissolved)	mg/l	0.012	ISO 17025	97	8.7	340	10
Magnesium (dissolved)	mg/l	0.005	ISO 17025	280	0.053	590	0.2

Phosphorus (total)	µg/l	20	ISO 17025	18000	< 20	510	140
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	8.99	9.44	21.7	43.4
Barium (dissolved)	µg/l	0.06	ISO 17025	17	36	130	9.2
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.15	0.12	< 0.02	0.22
Chromium (dissolved)	µg/l	0.2	ISO 17025	7.3	54	6.4	3.3
Copper (dissolved)	µg/l	0.5	ISO 17025	72	28	130	33
Lead (dissolved)	µg/l	0.2	ISO 17025	3.8	7.2	< 0.2	0.6
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.1	0.06	< 0.05	0.28
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.5	4	6.2	120
Selenium (dissolved)	µg/l	0.6	ISO 17025	240	56	49	370
Vanadium (dissolved)	µg/l	0.2	ISO 17025	18	27	17	140
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.7	9.4	7.7	2.5

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	75
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	170
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	360
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	610

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Environmental Science

Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688324	1688325	1688326	1688327
Sample Reference	WS203	BH201	BH202	BH501
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.53-4.48	4.08-30.41	4.20-6.73	12.30-19.28
Date Sampled	16/11/2020	16/11/2020	16/11/2020	17/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	12.7	12.1	7.1	7.2
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	15000	5000	9600	1100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	2940	812	624	153
Chloride	mg/l	0,15	ISO 17025	790	380	3800	180
Ammonia as NH3	µg/l	15	ISO 17025	7700	4300	5600	< 15
Ammonium as NH4	µg/l	15	ISO 17025	8100	4500	5900	< 15
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	3	1,3	3,8	0,1
Nitrate as N	mg/l	0,01	ISO 17025	0,31	0,37	0,62	15,1
Nitrate as NO3	mg/l	0,05	ISO 17025	1,39	1,65	2,74	66,7
Nitrite as N	µg/l	1	ISO 17025	1600	200	3,6	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	5200	650	12	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2,8	4,1	< 1,0	< 1,0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	9300	3000	5500	860
Hardness - Total	mgCaCO3/l	1	ISO 17025	38,8	28,6	2120	473
Dissolved Oxygen	mg/l	1	NONE	1,3	< 1,0	1,1	5,1

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16
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Environmental Science

Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688324	1688325	1688326	1688327
Sample Reference	WS203	BH201	BH202	BH501
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.53-4.48	4.08-30.41	4.20-6.73	12.30-19.28
Date Sampled	16/11/2020	16/11/2020	16/11/2020	17/11/2020
Time Taken	None Supplied	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	280	68	630	140
Calcium (dissolved)	mg/l	0.012	ISO 17025	15	11	450	170
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.13	0.12	240	12

Phosphorus (total)	µg/l	20	ISO 17025	52	300	260	2000
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	6.16	58.1	26.4	2.4
Barium (dissolved)	µg/l	0.06	ISO 17025	18	11	120	44
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.16	0.16	0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	9.9	7.1	7.7	22
Copper (dissolved)	µg/l	0.5	ISO 17025	13	16	170	31
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	6.1	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.11	0.17	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	45	23	12	6.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	120	18	59	11
Vanadium (dissolved)	µg/l	0.2	ISO 17025	530	510	23	3.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.3	5.5	7.3	14

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Environmental Science

Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688328			1688329	1688330	1688331
Sample Reference	BH502			BH203	BH204	BH704
Sample Number	None Supplied			None Supplied	None Supplied	None Supplied
Depth (m)	12.17-19.28			3.57-12.25	3.47-11.57	4.54-5.00
Date Sampled	17/11/2020			17/11/2020	17/11/2020	17/11/2020
Time Taken	None Supplied			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	6.7	7.3	7
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1500	2600	1100	1500
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	298	1700	74	366
Chloride	mg/l	0,15	ISO 17025	260	270	170	120
Ammonia as NH3	µg/l	15	ISO 17025	< 15	3600	960	20
Ammonium as NH4	µg/l	15	ISO 17025	< 15	3800	1000	21
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,1	2,9	0,3	< 0,1
Nitrate as N	mg/l	0,01	ISO 17025	15,4	0,26	0,13	33,7
Nitrate as NO3	mg/l	0,05	ISO 17025	68,2	1,14	0,57	149
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	21
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	69
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	880	1500	650	850
Hardness - Total	mgCaCO3/l	1	ISO 17025	662	2140	405	1180
Dissolved Oxygen	mg/l	1	NONE	5,3	1,3	1,5	2,4

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Environmental Science

Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688328			1688329			1688330			1688331		
Sample Reference	BH502			BH203			BH204			BH704		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	12.17-19.28			3.57-12.25			3.47-11.57			4.54-5.00		
Date Sampled	17/11/2020			17/11/2020			17/11/2020			17/11/2020		
Time Taken	None Supplied			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	1688328	1688329	1688330	1688331
Boron (dissolved)	µg/l	10	ISO 17025	280	690	370	67
Calcium (dissolved)	mg/l	0.012	ISO 17025	240	640	94	440
Magnesium (dissolved)	mg/l	0.005	ISO 17025	17	130	41	18

Phosphorus (total)	µg/l	20	ISO 17025	610	870	1200	5700
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.04	21.3	3.05	2.75
Barium (dissolved)	µg/l	0.06	ISO 17025	45	57	45	160
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	0.8
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.13
Chromium (dissolved)	µg/l	0.2	ISO 17025	8.4	9.9	6.4	7.8
Copper (dissolved)	µg/l	0.5	ISO 17025	25	34	21	18
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	< 0.2	3.1
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.2	22	5.6	17
Selenium (dissolved)	µg/l	0.6	ISO 17025	15	17	4.7	6
Vanadium (dissolved)	µg/l	0.2	ISO 17025	4.6	3	2.7	7.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.8	71	5.7	59

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688332	1688333	1688334	1688335
Sample Reference	BH705	BH706	SW002	SW004
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.76-18.99	6.74-29.26	None Supplied	None Supplied
Date Sampled	17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	7.3	7.4	8	10.2
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	820	780	2200	6000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	156	136	146	1080
Chloride	mg/l	0.15	ISO 17025	65	55	580	950
Ammonia as NH3	µg/l	15	ISO 17025	< 15	< 15	650	< 15
Ammonium as NH4	µg/l	15	ISO 17025	< 15	< 15	690	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	< 0.1	< 0.1	0.8	4.6
Nitrate as N	mg/l	0.01	ISO 17025	18.1	13.3	0.2	0.28
Nitrate as NO3	mg/l	0.05	ISO 17025	80.2	58.9	0.88	1.24
Nitrite as N	µg/l	1	ISO 17025	< 1.0	3.3	22	47
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	11	74	150
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	5.1
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	450	490	1200	3400
Hardness - Total	mgCaCO3/l	1	ISO 17025	496	458	636	39
Dissolved Oxygen	mg/l	1	NONE	9	8.1	5.3	5.5

Speciated PAHs

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

Total PAH

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



Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688332			1688333			1688334			1688335		
Sample Reference	BH705			BH706			SW002			SW004		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	2.76-18.99			6.74-29.26			None Supplied			None Supplied		
Date Sampled	17/11/2020			17/11/2020			17/11/2020			17/11/2020		
Time Taken	None Supplied			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	49	47	200	84
Calcium (dissolved)	mg/l	0.012	ISO 17025	180	170	150	7.6
Magnesium (dissolved)	mg/l	0.005	ISO 17025	8.8	11	63	4.8

Phosphorus (total)	µg/l	20	ISO 17025	660	240	330	53
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.47	1.29	7.11	48.5
Barium (dissolved)	µg/l	0.06	ISO 17025	63	59	52	5.8
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.07	< 0.02	< 0.02	0.17
Chromium (dissolved)	µg/l	0.2	ISO 17025	7	7	5.7	5.3
Copper (dissolved)	µg/l	0.5	ISO 17025	27	24	23	11
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	0.5	< 0.2	0.6
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.3	5.7	3.6	23
Selenium (dissolved)	µg/l	0.6	ISO 17025	3.8	3	11	35
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.7	2.4	7	110
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.8	6	13	9.9

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number	1688336	1688337	1688338	1688339
Sample Reference	SW005	SW007	SW009	SW012
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	8	7.4	7.6	7.8
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	950	3200	20000	620
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	197	602	1030	159
Chloride	mg/l	0,15	ISO 17025	130	800	5200	55
Ammonia as NH3	µg/l	15	ISO 17025	79	200	440	34
Ammonium as NH4	µg/l	15	ISO 17025	84	210	470	36
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,3	1,1	0,3	0,3
Nitrate as N	mg/l	0,01	ISO 17025	3,79	0,23	1,17	2,73
Nitrate as NO3	mg/l	0,05	ISO 17025	16,8	1,03	5,16	12,1
Nitrite as N	µg/l	1	ISO 17025	24	13	24	31
Nitrite as NO2	µg/l	5	ISO 17025	79	42	80	100
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	6.1	< 1.0	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	580	2000	12000	330
Hardness - Total	mgCaCO3/l	1	ISO 17025	331	844	2400	301
Dissolved Oxygen	mg/l	1	NONE	5,6	1,2	7,4	5,3

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Environmental Science

Analytical Report Number: 20-42107
Project / Site name: The London Resort

Lab Sample Number				1688336	1688337	1688338	1688339
Sample Reference				SW005	SW007	SW009	SW012
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				17/11/2020	17/11/2020	17/11/2020	17/11/2020
Time Taken				None Supplied	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	91	540	1300	69
Calcium (dissolved)	mg/l	0.012	ISO 17025	110	210	230	110
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	81	450	9.2

Phosphorus (total)	µg/l	20	ISO 17025	290	4600	290	350
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	12	8.91	23.9	6.61
Barium (dissolved)	µg/l	0.06	ISO 17025	55	63	110	35
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.02	0.07	2	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.2	5.4	7.2	3
Copper (dissolved)	µg/l	0.5	ISO 17025	27	35	56	23
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	1.2	0.8
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	0.16	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.9	8.5	9	3.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	7.1	17	41	2.8
Vanadium (dissolved)	µg/l	0.2	ISO 17025	8.7	8.5	13	3
Zinc (dissolved)	µg/l	0.5	ISO 17025	15	10	130	14

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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

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



Analytical Report Number : 20-42107
 Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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



Analytical Report Number : 20-42107
 Project / Site name: The London Resort

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
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 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 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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Environmental Science

Analytical Report Number : 20-42107
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1688322	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1688322	c	Dissolved Oxygen in water	L086-PL	c
BH201	None Supplied	W	1688325	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1688325	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1688326	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1688326	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1688329	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1688329	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1688330	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1688330	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1688327	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	None Supplied	W	1688327	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1688328	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1688328	c	Dissolved Oxygen in water	L086-PL	c
BH704	None Supplied	W	1688331	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	None Supplied	W	1688331	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1688332	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	None Supplied	W	1688332	c	Dissolved Oxygen in water	L086-PL	c
BH706	None Supplied	W	1688333	c	Biological oxygen demand (total) of water	L086-PL	c
BH706	None Supplied	W	1688333	c	Dissolved Oxygen in water	L086-PL	c
SW002	None Supplied	W	1688334	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	None Supplied	W	1688334	c	Dissolved Oxygen in water	L086-PL	c
SW004	None Supplied	W	1688335	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	None Supplied	W	1688335	c	Dissolved Oxygen in water	L086-PL	c
SW005	None Supplied	W	1688336	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	None Supplied	W	1688336	c	Dissolved Oxygen in water	L086-PL	c
SW007	None Supplied	W	1688337	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	None Supplied	W	1688337	c	Dissolved Oxygen in water	L086-PL	c
SW009	None Supplied	W	1688338	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	None Supplied	W	1688338	c	Dissolved Oxygen in water	L086-PL	c
SW012	None Supplied	W	1688339	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	None Supplied	W	1688339	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1688320	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1688320	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1688321	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1688321	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1688323	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	None Supplied	W	1688323	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1688324	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1688324	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 20-43525

Project / Site name:	The London Resort	Samples received on:	20/11/2020
Your job number:		Samples instructed on/ Analysis started on:	26/11/2020
Your order number:		Analysis completed by:	07/12/2020
Report Issue Number:	1	Report issued on:	07/12/2020
Samples Analysed:	4 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

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



Analytical Report Number: 20-43525
Project / Site name: The London Resort

Lab Sample Number		1696296	1696297	1696298	1696299
Sample Reference		SW013	SW014	SW015	SW016
Sample Number		None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)		None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled		19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken		None Supplied	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	8	7.8	7.5	7.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	780	660	310	670
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	112	42.6	31.6	43.9
Chloride	mg/l	0.15	ISO 17025	59	40	14	37
Ammonia as NH3	µg/l	15	ISO 17025	96	35	230	< 15
Ammonium as NH4	µg/l	15	ISO 17025	100	37	240	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	3.3	3.1	0.4	85
Nitrate as N	mg/l	0.01	ISO 17025	1.41	7.32	0.07	7.8
Nitrate as NO3	mg/l	0.05	ISO 17025	6.25	32.4	0.31	34.6
Nitrite as N	µg/l	1	ISO 17025	31	26	7.9	1.6
Nitrite as NO2	µg/l	5	ISO 17025	100	84	26	5.4
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.3	< 1.0	5.2	2.6
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	440	350	180	410
Hardness - Total	mgCaCO3/l	1	ISO 17025	344	363	155	377
Dissolved Oxygen	mg/l	1	NONE	8.7	7.5	1.6	7.4

Speciated PAHs

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

Total PAH

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

Boron (dissolved)	µg/l	10	ISO 17025	78	35	30	27
Calcium (dissolved)	mg/l	0.012	ISO 17025	120	140	58	140
Magnesium (dissolved)	mg/l	0.005	ISO 17025	9.3	4.8	2.4	4.9

Phosphorus (total)	µg/l	20	ISO 17025	< 20	39	84	34
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.9	0.2	1.46	< 0.15
Barium (dissolved)	µg/l	0.06	ISO 17025	46	50	30	50
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.6	3.1	1.7	3.2
Copper (dissolved)	µg/l	0.5	ISO 17025	6.1	4.6	5.2	4.1
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	< 0.2	0.2	< 0.2



Analytical Report Number: 20-43525
 Project / Site name: The London Resort

Lab Sample Number	1696296	1696297	1696298	1696299			
Sample Reference	SW013	SW014	SW015	SW016			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied			
Date Sampled	19/11/2020	19/11/2020	19/11/2020	19/11/2020			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accredit Station Status				
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	9,4	2,6	8,5	2,2
Selenium (dissolved)	µg/l	0,6	ISO 17025	1,7	1	< 0,6	1,2
Vanadium (dissolved)	µg/l	0,2	ISO 17025	1,3	0,4	0,4	< 0,2
Zinc (dissolved)	µg/l	0,5	ISO 17025	17	22	11	12



Analytical Report Number: 20-43525
Project / Site name: The London Resort

Lab Sample Number	1696296	1696297	1696298	1696299
Sample Reference	SW013	SW014	SW015	SW016
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	Accreditation

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 20-43525
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW,	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 20-43525
Project / Site name: The London Resort

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
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
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Analytical Report Number : 20-43525
 Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW013	None Supplied	W	1696296	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW013	None Supplied	W	1696296	c	Ammonia as NH3 in water	L082-PL	c
SW013	None Supplied	W	1696296	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW013	None Supplied	W	1696296	c	Ammonium as NH4 in water	L082-PL	c
SW013	None Supplied	W	1696296	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	None Supplied	W	1696296	c	Boron in water	L039-PL	c
SW013	None Supplied	W	1696296	c	Dissolved Oxygen in water	L086-PL	c
SW013	None Supplied	W	1696296	c	Electrical conductivity at 20oC of water	L031-PL	c
SW013	None Supplied	W	1696296	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW013	None Supplied	W	1696296	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW013	None Supplied	W	1696296	c	Metals in water by ICP-OES (total)	L039-PL	c
SW013	None Supplied	W	1696296	c	Nitrate as N in water	L078-PL	c
SW013	None Supplied	W	1696296	c	Nitrate in water	L078-PL	c
SW013	None Supplied	W	1696296	c	Nitrite as N in water	L082-PL	c
SW013	None Supplied	W	1696296	c	Nitrite in water	L082-PL	c
SW013	None Supplied	W	1696296	c	Sulphate in water	L039-PL	c
SW013	None Supplied	W	1696296	c	Total Hardness of water	L045-PL	c
SW013	None Supplied	W	1696296	c	Total cyanide in water	L080-PL	c
SW013	None Supplied	W	1696296	c	pH at 20oC in water (automated)	L099-PL	c
SW014	None Supplied	W	1696297	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW014	None Supplied	W	1696297	c	Ammonia as NH3 in water	L082-PL	c
SW014	None Supplied	W	1696297	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW014	None Supplied	W	1696297	c	Ammonium as NH4 in water	L082-PL	c
SW014	None Supplied	W	1696297	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	None Supplied	W	1696297	c	Boron in water	L039-PL	c
SW014	None Supplied	W	1696297	c	Dissolved Oxygen in water	L086-PL	c
SW014	None Supplied	W	1696297	c	Electrical conductivity at 20oC of water	L031-PL	c
SW014	None Supplied	W	1696297	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW014	None Supplied	W	1696297	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW014	None Supplied	W	1696297	c	Metals in water by ICP-OES (total)	L039-PL	c
SW014	None Supplied	W	1696297	c	Nitrate as N in water	L078-PL	c
SW014	None Supplied	W	1696297	c	Nitrate in water	L078-PL	c
SW014	None Supplied	W	1696297	c	Nitrite as N in water	L082-PL	c
SW014	None Supplied	W	1696297	c	Nitrite in water	L082-PL	c
SW014	None Supplied	W	1696297	c	Sulphate in water	L039-PL	c
SW014	None Supplied	W	1696297	c	Total Hardness of water	L045-PL	c
SW014	None Supplied	W	1696297	c	Total cyanide in water	L080-PL	c
SW014	None Supplied	W	1696297	c	pH at 20oC in water (automated)	L099-PL	c
SW015	None Supplied	W	1696298	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW015	None Supplied	W	1696298	c	Ammonia as NH3 in water	L082-PL	c
SW015	None Supplied	W	1696298	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW015	None Supplied	W	1696298	c	Ammonium as NH4 in water	L082-PL	c
SW015	None Supplied	W	1696298	c	Biological oxygen demand (total) of water	L086-PL	c
SW015	None Supplied	W	1696298	c	Boron in water	L039-PL	c
SW015	None Supplied	W	1696298	c	Dissolved Oxygen in water	L086-PL	c
SW015	None Supplied	W	1696298	c	Electrical conductivity at 20oC of water	L031-PL	c
SW015	None Supplied	W	1696298	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW015	None Supplied	W	1696298	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW015	None Supplied	W	1696298	c	Metals in water by ICP-OES (total)	L039-PL	c
SW015	None Supplied	W	1696298	c	Nitrate as N in water	L078-PL	c
SW015	None Supplied	W	1696298	c	Nitrate in water	L078-PL	c
SW015	None Supplied	W	1696298	c	Nitrite as N in water	L082-PL	c
SW015	None Supplied	W	1696298	c	Nitrite in water	L082-PL	c
SW015	None Supplied	W	1696298	c	Sulphate in water	L039-PL	c
SW015	None Supplied	W	1696298	c	Total Hardness of water	L045-PL	c
SW015	None Supplied	W	1696298	c	Total cyanide in water	L080-PL	c
SW015	None Supplied	W	1696298	c	pH at 20oC in water (automated)	L099-PL	c

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

Sample Deviation Report



Analytical Report Number : 20-43525
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW013	None Supplied	W	1696296	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW016	None Supplied	W	1696299	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW016	None Supplied	W	1696299	c	Ammonia as NH3 in water	L082-PL	c
SW016	None Supplied	W	1696299	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW016	None Supplied	W	1696299	c	Ammonium as NH4 in water	L082-PL	c
SW016	None Supplied	W	1696299	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	None Supplied	W	1696299	c	Boron in water	L039-PL	c
SW016	None Supplied	W	1696299	c	Dissolved Oxygen in water	L086-PL	c
SW016	None Supplied	W	1696299	c	Electrical conductivity at 20oC of water	L031-PL	c
SW016	None Supplied	W	1696299	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW016	None Supplied	W	1696299	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW016	None Supplied	W	1696299	c	Metals in water by ICP-OES (total)	L039-PL	c
SW016	None Supplied	W	1696299	c	Nitrate as N in water	L078-PL	c
SW016	None Supplied	W	1696299	c	Nitrate in water	L078-PL	c
SW016	None Supplied	W	1696299	c	Nitrite as N in water	L082-PL	c
SW016	None Supplied	W	1696299	c	Nitrite in water	L082-PL	c
SW016	None Supplied	W	1696299	c	Sulphate in water	L039-PL	c
SW016	None Supplied	W	1696299	c	Total Hardness of water	L045-PL	c
SW016	None Supplied	W	1696299	c	Total cyanide in water	L080-PL	c
SW016	None Supplied	W	1696299	c	pH at 20oC in water (automated)	L099-PL	c

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



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Analytical Report Number : 20-46997

Project / Site name:	The London Resort	Samples received on:	10/12/2020
Your job number:		Samples instructed on/ Analysis started on:	11/12/2020
Your order number:		Analysis completed by:	23/12/2020
Report Issue Number:	1	Report issued on:	23/12/2020
Samples Analysed:	7 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

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



Environmental Science

Analytical Report Number: 20-46997
Project / Site name: The London Resort

Lab Sample Number	1715562				1715563		1715564		1715565		1715566	
Sample Reference	WS101				WS102		BH101		WS202		WS203	
Sample Number	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Depth (m)	3.95-5.35				4.08-5.42		4.75-39.17		8.59-10.92		1.50-4.48	
Date Sampled	09/12/2020				09/12/2020		09/12/2020		09/12/2020		09/12/2020	
Time Taken	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									

General Inorganics

Parameter	Units	N/A	ISO 17025	1715562	1715563	1715564	1715565	1715566
pH	pH Units	N/A	ISO 17025	8.8	12.7	7.1	13.1	12.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	5300	5700	8600	4100	6200
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	14400	353	1100	17600	2540
Chloride	mg/l	0.15	ISO 17025	18000	1100	7200	3300	680
Ammonia as NH3	µg/l	15	ISO 17025	340000	1500	11000	5200	2200
Ammonium as NH4	µg/l	15	ISO 17025	360000	1600	11000	5500	2300
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	150	0.9	3	18	2.5
Nitrate as N	mg/l	0.01	ISO 17025	1.44	0.51	0.08	0.28	0.18
Nitrate as NO3	mg/l	0.05	ISO 17025	6.37	2.26	0.34	1.23	0.78
Nitrite as N	µg/l	1	ISO 17025	22	340	2.4	700	450
Nitrite as NO2	µg/l	5	ISO 17025	74	1100	7.9	2300	1500
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	3.6	< 1.0	< 1.0	4.4	3.2
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	22000	5100	14000	39000	8300
Hardness - Total	mgCaCO3/l	1	ISO 17025	1180	28.5	3240	15.5	36.6
Dissolved Oxygen	mg/l	1	NONE	1.7	5.8	1.5	1.9	3.3

Speciated PAHs

Parameter	Units	N/A	ISO 17025	1715562	1715563	1715564	1715565	1715566
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Parameter	Units	N/A	ISO 17025	1715562	1715563	1715564	1715565	1715566
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16



Analytical Report Number: 20-46997
Project / Site name: The London Resort

Lab Sample Number	1715562				1715563	1715564	1715565	1715566
Sample Reference	WS101				WS102	BH101	WS202	WS203
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.95-5.35				4.08-5.42	4.75-39.17	8.59-10.92	1.50-4.48
Date Sampled	09/12/2020				09/12/2020	09/12/2020	09/12/2020	09/12/2020
Time Taken	None Supplied				None Supplied	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	1715562	1715563	1715564	1715565	1715566
Boron (dissolved)	µg/l	10	ISO 17025	780	24	1400	70	390
Calcium (dissolved)	mg/l	0.012	ISO 17025	57	11	310	6	14
Magnesium (dissolved)	mg/l	0.005	ISO 17025	250	0.075	600	0.11	0.44

Phosphorus (total)	µg/l	20	ISO 17025	20000	470	660	100	50
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	7.71	11.6	57	44	10.4
Barium (dissolved)	µg/l	0.06	ISO 17025	11	41	130	7	13
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.06	< 0.02	0.27	0.26
Chromium (dissolved)	µg/l	0.2	ISO 17025	8.5	58	9.5	2.7	7.9
Copper (dissolved)	µg/l	0.5	ISO 17025	78	35	130	51	47
Lead (dissolved)	µg/l	0.2	ISO 17025	0.7	3.9	< 0.2	0.6	0.5
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.09	< 0.05	0.05	0.25
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.7	1.3	8.3	130	29
Selenium (dissolved)	µg/l	0.6	ISO 17025	160	72	57	650	120
Vanadium (dissolved)	µg/l	0.2	ISO 17025	20	30	39	150	320
Zinc (dissolved)	µg/l	0.5	ISO 17025	1.9	7.8	15	3.7	30

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 20-46997
Project / Site name: The London Resort

Lab Sample Number				1715567	1715568
Sample Reference				BH201	BH202
Sample Number				None Supplied	None Supplied
Depth (m)				4.12-6.73	3.84-30.41
Date Sampled				09/12/2020	09/12/2020
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	12	7.1
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	3900	11000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	691	701
Chloride	mg/l	0.15	ISO 17025	320	620
Ammonia as NH3	µg/l	15	ISO 17025	3900	5900
Ammonium as NH4	µg/l	15	ISO 17025	4200	6200
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1.3	1.7
Nitrate as N	mg/l	0.01	ISO 17025	0.5	0.29
Nitrate as NO3	mg/l	0.05	ISO 17025	2.21	1.27
Nitrite as N	µg/l	1	ISO 17025	350	6.4
Nitrite as NO2	µg/l	5	ISO 17025	1100	21
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.4	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	2400	8400
Hardness - Total	mgCaCO3/l	1	ISO 17025	26.6	2270
Dissolved Oxygen	mg/l	1	NONE	5.4	2.1

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	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
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	< 0.16
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Analytical Report Number: 20-46997
Project / Site name: The London Resort

Lab Sample Number				1715567	1715568
Sample Reference				BH201	BH202
Sample Number				None Supplied	None Supplied
Depth (m)				4.12-6.73	3.84-30.41
Date Sampled				09/12/2020	09/12/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	66	730
Calcium (dissolved)	mg/l	0.012	ISO 17025	11	500
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0,05	250

Phosphorus (total)	µg/l	20	ISO 17025	130	340
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	67.5	36
Barium (dissolved)	µg/l	0.06	ISO 17025	7.2	110
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0,09	0,03
Chromium (dissolved)	µg/l	0.2	ISO 17025	16	7,4
Copper (dissolved)	µg/l	0.5	ISO 17025	39	41
Lead (dissolved)	µg/l	0.2	ISO 17025	3	0,3
Mercury (dissolved)	µg/l	0.05	ISO 17025	0,14	< 0,05
Nickel (dissolved)	µg/l	0.5	ISO 17025	31	16
Selenium (dissolved)	µg/l	0.6	ISO 17025	24	33
Vanadium (dissolved)	µg/l	0.2	ISO 17025	380	29
Zinc (dissolved)	µg/l	0.5	ISO 17025	44	24

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	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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

Analytical Report Number : 20-46997
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination,	In house method based on BS 7755-3.7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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 : 20-46997
Project / Site name: The London Resort

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
Ammonium as NH ₄ 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
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Analytical Report Number : 20-46997
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1715564	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	1715564	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	1715564	c	Ammonium as NH4 in water	L082-PL	c
BH101	None Supplied	W	1715564	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1715564	c	Dissolved Oxygen in water	L086-PL	c
BH101	None Supplied	W	1715564	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101	None Supplied	W	1715564	c	pH at 20oC in water (automated)	L099-PL	c
BH201	None Supplied	W	1715567	c	Ammonia as NH3 in water	L082-PL	c
BH201	None Supplied	W	1715567	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH201	None Supplied	W	1715567	c	Ammonium as NH4 in water	L082-PL	c
BH201	None Supplied	W	1715567	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1715567	c	Dissolved Oxygen in water	L086-PL	c
BH201	None Supplied	W	1715567	c	Electrical conductivity at 20oC of water	L031-PL	c
BH201	None Supplied	W	1715567	c	pH at 20oC in water (automated)	L099-PL	c
BH202	None Supplied	W	1715568	c	Ammonia as NH3 in water	L082-PL	c
BH202	None Supplied	W	1715568	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH202	None Supplied	W	1715568	c	Ammonium as NH4 in water	L082-PL	c
BH202	None Supplied	W	1715568	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1715568	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1715568	c	Electrical conductivity at 20oC of water	L031-PL	c
BH202	None Supplied	W	1715568	c	pH at 20oC in water (automated)	L099-PL	c
WS101	None Supplied	W	1715562	c	Ammonia as NH3 in water	L082-PL	c
WS101	None Supplied	W	1715562	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS101	None Supplied	W	1715562	c	Ammonium as NH4 in water	L082-PL	c
WS101	None Supplied	W	1715562	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1715562	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1715562	c	Electrical conductivity at 20oC of water	L031-PL	c
WS101	None Supplied	W	1715562	c	pH at 20oC in water (automated)	L099-PL	c
WS102	None Supplied	W	1715563	c	Ammonia as NH3 in water	L082-PL	c
WS102	None Supplied	W	1715563	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS102	None Supplied	W	1715563	c	Ammonium as NH4 in water	L082-PL	c
WS102	None Supplied	W	1715563	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1715563	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1715563	c	Electrical conductivity at 20oC of water	L031-PL	c
WS102	None Supplied	W	1715563	c	pH at 20oC in water (automated)	L099-PL	c
WS202	None Supplied	W	1715565	c	Ammonia as NH3 in water	L082-PL	c
WS202	None Supplied	W	1715565	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS202	None Supplied	W	1715565	c	Ammonium as NH4 in water	L082-PL	c
WS202	None Supplied	W	1715565	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	None Supplied	W	1715565	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1715565	c	Electrical conductivity at 20oC of water	L031-PL	c
WS202	None Supplied	W	1715565	c	pH at 20oC in water (automated)	L099-PL	c
WS203	None Supplied	W	1715566	c	Ammonia as NH3 in water	L082-PL	c
WS203	None Supplied	W	1715566	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS203	None Supplied	W	1715566	c	Ammonium as NH4 in water	L082-PL	c
WS203	None Supplied	W	1715566	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1715566	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1715566	c	Electrical conductivity at 20oC of water	L031-PL	c
WS203	None Supplied	W	1715566	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 20-47006

Project / Site name:	The London Resort	Samples received on:	09/12/2020
Your job number:		Samples instructed on/ Analysis started on:	11/12/2020
Your order number:		Analysis completed by:	13/01/2021
Report Issue Number:	1	Report issued on:	13/01/2021
Samples Analysed:	2 soil samples - 6 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

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

Analytical Report Number: 20-47006
Project / Site name: The London Resort

Lab Sample Number	1715664	1715665			
Sample Reference	SW004	SW009			
Sample Number	None Supplied	None Supplied			
Depth (m)	None Supplied	None Supplied			
Date Sampled	08/12/2020	08/12/2020			
Time Taken	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0,1	NONE	< 0,1	< 0,1
Moisture Content	%	0,01	NONE	77	42
Total mass of sample received	kg	0,001	NONE	0,5	0,5

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9,7	9,4
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1
Organic Matter	%	0,1	MCERTS	11	1,0

Speciated PAHs

	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Naphthalene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Acenaphthylene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Acenaphthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Fluorene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Phenanthrene	mg/kg	0,05	MCERTS	0,16	< 0,05
Anthracene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Fluoranthene	mg/kg	0,05	MCERTS	0,31	< 0,05
Pyrene	mg/kg	0,05	MCERTS	0,34	< 0,05
Benzo(a)anthracene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Chrysene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Benzo(b)fluoranthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Benzo(k)fluoranthene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Benzo(a)pyrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Indeno(1,2,3-cd)pyrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Dibenz(a,h)anthracene	mg/kg	0,05	MCERTS	< 0,05	< 0,05
Benzo(ghi)perylene	mg/kg	0,05	MCERTS	< 0,05	< 0,05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0,8	MCERTS	0,81	< 0,80

Heavy Metals / Metalloids

	mg/kg	1	MCERTS	26	26
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26	26
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	47
Beryllium (aqua regia extractable)	mg/kg	0,06	MCERTS	0,68	1,2
Boron (water soluble)	mg/kg	0,2	MCERTS	6,5	10
Cadmium (aqua regia extractable)	mg/kg	0,2	MCERTS	5,7	< 0,2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	45	38
Copper (aqua regia extractable)	mg/kg	1	MCERTS	71	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	210	66
Mercury (aqua regia extractable)	mg/kg	0,3	MCERTS	1,4	< 0,3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	7,3	< 1,0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	90	71
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	320	150

Analytical Report Number: 20-47006
Project / Site name: The London Resort

Lab Sample Number	1715664	1715665			
Sample Reference	SW004	SW009			
Sample Number	None Supplied	None Supplied			
Depth (m)	None Supplied	None Supplied			
Date Sampled	08/12/2020	08/12/2020			
Time Taken	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0,001	MCERTS	< 0,001	< 0,001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10

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



Analytical Report Number: 20-47006
Project / Site name: The London Resort

Lab Sample Number	1715658	1715659	1715660	1715661	1715662
Sample Reference	SW002	SW004	SW005	SW007	SW009
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	08/12/2020	08/12/2020	08/12/2020	08/12/2020	08/12/2020
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	pH Units	N/A	ISO 17025	8,0	10	7,9	7,7	7,9
pH								
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	2100	5700	740	830	2600
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	111	969	111	94,4	282
Chloride	mg/l	0,15	ISO 17025	600	1100	75	110	800
Ammonia as NH3	µg/l	15	ISO 17025	1000	100	25	30	920
Ammonium as NH4	µg/l	15	ISO 17025	1100	110	26	32	980
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	1,1	2,5	0,3	0,4	0,5
Nitrate as N	mg/l	0,01	ISO 17025	0,1	0,31	5,5	2,34	0,87
Nitrate as NO3	mg/l	0,05	ISO 17025	0,44	1,37	24,4	10,4	3,87
Nitrite as N	µg/l	1	ISO 17025	6,8	110	11	17	21
Nitrite as NO2	µg/l	5	ISO 17025	22	350	35	56	69
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1,0	5,3	< 1,0	< 1,0	1,5
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1500	4200	560	580	2000

	mgCaCO3/l	1	ISO 17025	511	33,4	294	301	543
Hardness - Total								
Dissolved Oxygen	mg/l	1	NONE	5,8	8,4	8,1	4,8	7,2

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene								
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 20-47006
Project / Site name: The London Resort

Lab Sample Number				1715658	1715659	1715660	1715661	1715662
Sample Reference				SW002	SW004	SW005	SW007	SW009
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				08/12/2020	08/12/2020	08/12/2020	08/12/2020	08/12/2020
Time Taken				None Supplied	None Supplied	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	160	81	62	83	1100
Calcium (dissolved)	mg/l	0,012	ISO 17025	130	7,4	110	100	140
Magnesium (dissolved)	mg/l	0,005	ISO 17025	44	3,6	7,8	10	48

Phosphorus (total)	µg/l	20	ISO 17025	340	68	150	240	170
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	8,22	56,8	4,36	5,68	21,1
Barium (dissolved)	µg/l	0,06	ISO 17025	47	5,9	32	39	81
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	0,13	< 0,02	< 0,02	0,79
Chromium (dissolved)	µg/l	0,2	ISO 17025	2,5	6,4	2,9	2,4	3,1
Copper (dissolved)	µg/l	0,5	ISO 17025	15	24	9,2	6,3	18
Lead (dissolved)	µg/l	0,2	ISO 17025	0,6	0,4	< 0,2	0,3	3,6
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	0,09	< 0,05	< 0,05	0,35
Nickel (dissolved)	µg/l	0,5	ISO 17025	3,1	23	3,0	2,3	12
Selenium (dissolved)	µg/l	0,6	ISO 17025	5,5	33	2,9	1,7	7,0
Vanadium (dissolved)	µg/l	0,2	ISO 17025	6,8	130	3,3	2,2	10
Zinc (dissolved)	µg/l	0,5	ISO 17025	18	8,1	7,2	5,3	130

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

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 - C35	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	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 20-47006
Project / Site name: The London Resort

Lab Sample Number				1715663
Sample Reference				SW012
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				08/12/2020
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH	pH Units	N/A	ISO 17025	8,0
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	520
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	89,4
Chloride	mg/l	0,15	ISO 17025	45
Ammonia as NH3	µg/l	15	ISO 17025	37
Ammonium as NH4	µg/l	15	ISO 17025	40
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,3
Nitrate as N	mg/l	0,01	ISO 17025	5,17
Nitrate as NO3	mg/l	0,05	ISO 17025	22,9
Nitrite as N	µg/l	1	ISO 17025	21
Nitrite as NO2	µg/l	5	ISO 17025	70
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,5
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	430

Hardness - Total	mgCaCO3/l	1	ISO 17025	284
Dissolved Oxygen	mg/l	1	NONE	8,3

Speciated PAHs

Naphthalene	µg/l	0,01	ISO 17025	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 0,01
Dibenz(a,h)anthracene	µg/l	0,01	ISO 17025	< 0,01
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16
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Analytical Report Number: 20-47006
Project / Site name: The London Resort

Lab Sample Number	1715663			
Sample Reference	SW012			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	08/12/2020			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	51
Calcium (dissolved)	mg/l	0,012	ISO 17025	100
Magnesium (dissolved)	mg/l	0,005	ISO 17025	6,6

Phosphorus (total)	µg/l	20	ISO 17025	190
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	3,9
Barium (dissolved)	µg/l	0,06	ISO 17025	36
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02
Chromium (dissolved)	µg/l	0,2	ISO 17025	2,6
Copper (dissolved)	µg/l	0,5	ISO 17025	6,2
Lead (dissolved)	µg/l	0,2	ISO 17025	1,1
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	2,7
Selenium (dissolved)	µg/l	0,6	ISO 17025	1,6
Vanadium (dissolved)	µg/l	0,2	ISO 17025	2,4
Zinc (dissolved)	µg/l	0,5	ISO 17025	8,1

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

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



Analytical Report Number : 20-47006
Project / Site name: The London Resort

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 soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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-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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically, (30 oC)	In house method.	L019-UK/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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with Iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards,	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

Analytical Report Number : 20-47006
Project / Site name: The London Resort

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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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 soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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



Analytical Report Number : 20-47006
Project / Site name: The London Resort

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
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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.

Sample Deviation Report



Analytical Report Number : 20-47006
 Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	None Supplied	W	1715658	c	Ammonia as NH3 in water	L082-PL	c
SW002	None Supplied	W	1715658	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW002	None Supplied	W	1715658	c	Ammonium as NH4 in water	L082-PL	c
SW002	None Supplied	W	1715658	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	None Supplied	W	1715658	c	Dissolved Oxygen in water	L086-PL	c
SW002	None Supplied	W	1715658	c	Electrical conductivity at 20oC of water	L031-PL	c
SW002	None Supplied	W	1715658	c	Nitrate as N in water	L078-PL	c
SW002	None Supplied	W	1715658	c	Nitrate in water	L078-PL	c
SW002	None Supplied	W	1715658	c	Nitrite as N in water	L082-PL	c
SW002	None Supplied	W	1715658	c	Nitrite in water	L082-PL	c
SW002	None Supplied	W	1715658	c	pH at 20oC in water (automated)	L099-PL	c
SW004	None Supplied	W	1715659	c	Ammonia as NH3 in water	L082-PL	c
SW004	None Supplied	W	1715659	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW004	None Supplied	W	1715659	c	Ammonium as NH4 in water	L082-PL	c
SW004	None Supplied	W	1715659	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	None Supplied	W	1715659	c	Dissolved Oxygen in water	L086-PL	c
SW004	None Supplied	W	1715659	c	Electrical conductivity at 20oC of water	L031-PL	c
SW004	None Supplied	W	1715659	c	Nitrate as N in water	L078-PL	c
SW004	None Supplied	W	1715659	c	Nitrate in water	L078-PL	c
SW004	None Supplied	W	1715659	c	Nitrite as N in water	L082-PL	c
SW004	None Supplied	W	1715659	c	Nitrite in water	L082-PL	c
SW004	None Supplied	W	1715659	c	pH at 20oC in water (automated)	L099-PL	c
SW005	None Supplied	W	1715660	c	Ammonia as NH3 in water	L082-PL	c
SW005	None Supplied	W	1715660	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW005	None Supplied	W	1715660	c	Ammonium as NH4 in water	L082-PL	c
SW005	None Supplied	W	1715660	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	None Supplied	W	1715660	c	Dissolved Oxygen in water	L086-PL	c
SW005	None Supplied	W	1715660	c	Electrical conductivity at 20oC of water	L031-PL	c
SW005	None Supplied	W	1715660	c	Nitrate as N in water	L078-PL	c
SW005	None Supplied	W	1715660	c	Nitrate in water	L078-PL	c
SW005	None Supplied	W	1715660	c	Nitrite as N in water	L082-PL	c
SW005	None Supplied	W	1715660	c	Nitrite in water	L082-PL	c
SW005	None Supplied	W	1715660	c	pH at 20oC in water (automated)	L099-PL	c
SW007	None Supplied	W	1715661	c	Ammonia as NH3 in water	L082-PL	c
SW007	None Supplied	W	1715661	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW007	None Supplied	W	1715661	c	Ammonium as NH4 in water	L082-PL	c
SW007	None Supplied	W	1715661	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	None Supplied	W	1715661	c	Dissolved Oxygen in water	L086-PL	c
SW007	None Supplied	W	1715661	c	Electrical conductivity at 20oC of water	L031-PL	c
SW007	None Supplied	W	1715661	c	Nitrate as N in water	L078-PL	c
SW007	None Supplied	W	1715661	c	Nitrate in water	L078-PL	c
SW007	None Supplied	W	1715661	c	Nitrite as N in water	L082-PL	c
SW007	None Supplied	W	1715661	c	Nitrite in water	L082-PL	c
SW007	None Supplied	W	1715661	c	pH at 20oC in water (automated)	L099-PL	c
SW009	None Supplied	W	1715662	c	Ammonia as NH3 in water	L082-PL	c
SW009	None Supplied	W	1715662	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW009	None Supplied	W	1715662	c	Ammonium as NH4 in water	L082-PL	c
SW009	None Supplied	W	1715662	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	None Supplied	W	1715662	c	Dissolved Oxygen in water	L086-PL	c
SW009	None Supplied	W	1715662	c	Electrical conductivity at 20oC of water	L031-PL	c
SW009	None Supplied	W	1715662	c	Nitrate as N in water	L078-PL	c
SW009	None Supplied	W	1715662	c	Nitrate in water	L078-PL	c
SW009	None Supplied	W	1715662	c	Nitrite as N in water	L082-PL	c
SW009	None Supplied	W	1715662	c	Nitrite in water	L082-PL	c
SW009	None Supplied	W	1715662	c	pH at 20oC in water (automated)	L099-PL	c
SW012	None Supplied	W	1715663	c	Ammonia as NH3 in water	L082-PL	c
SW012	None Supplied	W	1715663	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW012	None Supplied	W	1715663	c	Ammonium as NH4 in water	L082-PL	c
SW012	None Supplied	W	1715663	c	Biological oxygen demand (total) of water	L086-PL	c

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

Sample Deviation Report



Analytical Report Number : 20-47006
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	None Supplied	W	1715658	c	Ammonia as NH3 in water	L082-PL	c
SW012	None Supplied	W	1715663	c	Dissolved Oxygen in water	L086-PL	c
SW012	None Supplied	W	1715663	c	Electrical conductivity at 20oC of water	L031-PL	c
SW012	None Supplied	W	1715663	c	Nitrate as N in water	L078-PL	c
SW012	None Supplied	W	1715663	c	Nitrate in water	L078-PL	c
SW012	None Supplied	W	1715663	c	Nitrite as N in water	L082-PL	c
SW012	None Supplied	W	1715663	c	Nitrite in water	L082-PL	c
SW012	None Supplied	W	1715663	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 20-47914

Project / Site name:	The London Resort	Samples received on:	14/12/2020
Your job number:		Samples instructed on/ Analysis started on:	16/12/2020
Your order number:		Analysis completed by:	30/12/2020
Report Issue Number:	1	Report issued on:	30/12/2020
Samples Analysed:	2 soil samples - 4 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

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



Analytical Report Number: 20-47914
Project / Site name: The London Resort

Lab Sample Number				1720843	1720844
Sample Reference				SW013	SW014
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/12/2020	11/12/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	38	76
Total mass of sample received	kg	0.001	NONE	0.5	0.5

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

General Inorganics

pH - Automated	pH Units	N/A	NONE	9.7	I/S
Total Cyanide	mg/kg	1	NONE	< 1	< 1
Organic Matter	%	0.1	NONE	4	11

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	1.3
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	0.31
Fluorene	mg/kg	0.05	NONE	< 0.05	0.22
Phenanthrene	mg/kg	0.05	NONE	0.5	0.99
Anthracene	mg/kg	0.05	NONE	< 0.05	0.23
Fluoranthene	mg/kg	0.05	NONE	0.81	2.6
Pyrene	mg/kg	0.05	NONE	0.92	2.8
Benzo(a)anthracene	mg/kg	0.05	NONE	0.31	1.8
Chrysene	mg/kg	0.05	NONE	0.48	1.3
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05	1.8
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	0.97
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	0.94
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	1.3

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	3.02	18.1
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	NONE	7.1	8.2
Barium (aqua regia extractable)	mg/kg	1	NONE	35	100
Beryllium (aqua regia extractable)	mg/kg	0.06	NONE	0.27	0.69
Boron (water soluble)	mg/kg	0.2	NONE	1.5	5.9
Cadmium (aqua regia extractable)	mg/kg	0.2	NONE	0.4	0.7
Chromium (aqua regia extractable)	mg/kg	1	NONE	14	30
Copper (aqua regia extractable)	mg/kg	1	NONE	13	48
Lead (aqua regia extractable)	mg/kg	1	NONE	42	73
Mercury (aqua regia extractable)	mg/kg	0.3	NONE	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	NONE	9.8	29
Selenium (aqua regia extractable)	mg/kg	1	NONE	< 1.0	2.6
Vanadium (aqua regia extractable)	mg/kg	1	NONE	17	33
Zinc (aqua regia extractable)	mg/kg	1	NONE	60	230



Analytical Report Number: 20-47914
Project / Site name: The London Resort

Lab Sample Number				1720843	1720844
Sample Reference				SW013	SW014
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/12/2020	11/12/2020
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	µg/kg	1	NONE	< 1.0	< 1.0
Toluene	µg/kg	1	NONE	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
p & m-xylene	µg/kg	1	NONE	< 1.0	< 1.0
o-xylene	µg/kg	1	NONE	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	4.2
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	NONE	< 2.0	8.3
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	NONE	< 8.0	21
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	NONE	< 8.0	79
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	NONE	< 10	110

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	NONE	< 1.0	4.7
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	NONE	< 2.0	7.9
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	NONE	34	35
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	NONE	59	93
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	NONE	94	140

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

Analytical Report Number: 20-47914
Project / Site name: The London Resort

Lab Sample Number	1720845			1720846			1720847			1720848		
Sample Reference	SW013			SW014			SW015			SW016		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	None Supplied			None Supplied			None Supplied			None Supplied		
Date Sampled	11/12/2020			11/12/2020			11/12/2020			11/12/2020		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									

General Inorganics

Parameter	Units	N/A	ISO 17025	1720845	1720846	1720847	1720848
pH	pH Units	N/A	ISO 17025	8	7,9	7,5	7,5
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	690	470	300	850
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	124	37,1	66,1	42,8
Chloride	mg/l	0,15	ISO 17025	59	44	17	170
Ammonia as NH3	µg/l	15	ISO 17025	880	610	880	800
Ammonium as NH4	µg/l	15	ISO 17025	930	650	930	850
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,2	0,3	0,4	< 0,1
Nitrate as N	mg/l	0,01	ISO 17025	2,4	5,52	0,52	8,68
Nitrate as NO3	mg/l	0,05	ISO 17025	10,6	24,5	2,3	38,4
Nitrite as N	µg/l	1	ISO 17025	23	50	24	29
Nitrite as NO2	µg/l	5	ISO 17025	76	160	80	94
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,5	2	4,6	< 1,0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	550	320	200	610
Hardness - Total	mgCaCO3/l	1	ISO 17025	370	252	184	371
Dissolved Oxygen	mg/l	1	NONE	8,3	8	4,5	6,9

Speciated PAHs

Parameter	Units	0,01	ISO 17025	1720845	1720846	1720847	1720848
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Parameter	Units	0,16	ISO 17025	1720845	1720846	1720847	1720848
Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 20-47914
Project / Site name: The London Resort

Lab Sample Number				1720845	1720846	1720847	1720848
Sample Reference				SW013	SW014	SW015	SW016
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/12/2020	11/12/2020	11/12/2020	11/12/2020
Time Taken				None Supplied	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	87	29	28	28
Calcium (dissolved)	mg/l	0.012	ISO 17025	130	95	70	140
Magnesium (dissolved)	mg/l	0.005	ISO 17025	10	3.5	2.5	4.6

Phosphorus (total)	µg/l	20	ISO 17025	20	100	220	130
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.41	1.18	1.47	1.84
Barium (dissolved)	µg/l	0.06	ISO 17025	35	35	21	53
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.03	< 0.02	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.4	2.6	1.6	2.3
Copper (dissolved)	µg/l	0.5	ISO 17025	3.7	7.8	5.1	6.4
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	2.1	0.3	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.1	2.5	2.3	3
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.5	0.9	< 0.6	1.2
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.1	3.1	1	2.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	8	16	17	28

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 20-47914
Project / Site name: The London Resort

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1720843	SW013	None Supplied	None Supplied	Brown silt with gravel and vegetation,**
1720844	SW014	None Supplied	None Supplied	Brown silt with vegetation,**

**Non MCERTS Matrix



Analytical Report Number : 20-47914
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	NONE
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically, (30 oC)	In house method.	L019-UK/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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	NONE
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
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

Analytical Report Number : 20-47914
Project / Site name: The London Resort

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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	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
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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 soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
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 NH ₃ 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 NH ₄ 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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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



Analytical Report Number : 20-47914
Project / Site name: The London Resort

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
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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.

Sample Deviation Report



Analytical Report Number : 20-47914
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW013	None Supplied	W	1720845	c	Ammonia as NH3 in water	L082-PL	c
SW013	None Supplied	W	1720845	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW013	None Supplied	W	1720845	c	Ammonium as NH4 in water	L082-PL	c
SW013	None Supplied	W	1720845	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	None Supplied	W	1720845	c	Dissolved Oxygen in water	L086-PL	c
SW013	None Supplied	W	1720845	c	Electrical conductivity at 20oC of water	L031-PL	c
SW013	None Supplied	W	1720845	c	Nitrate as N in water	L078-PL	c
SW013	None Supplied	W	1720845	c	Nitrate in water	L078-PL	c
SW013	None Supplied	W	1720845	c	Nitrite as N in water	L082-PL	c
SW013	None Supplied	W	1720845	c	Nitrite in water	L082-PL	c
SW013	None Supplied	W	1720845	c	pH at 20oC in water (automated)	L099-PL	c
SW014	None Supplied	W	1720846	c	Ammonia as NH3 in water	L082-PL	c
SW014	None Supplied	W	1720846	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW014	None Supplied	W	1720846	c	Ammonium as NH4 in water	L082-PL	c
SW014	None Supplied	W	1720846	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	None Supplied	W	1720846	c	Dissolved Oxygen in water	L086-PL	c
SW014	None Supplied	W	1720846	c	Electrical conductivity at 20oC of water	L031-PL	c
SW014	None Supplied	W	1720846	c	Nitrate as N in water	L078-PL	c
SW014	None Supplied	W	1720846	c	Nitrate in water	L078-PL	c
SW014	None Supplied	W	1720846	c	Nitrite as N in water	L082-PL	c
SW014	None Supplied	W	1720846	c	Nitrite in water	L082-PL	c
SW014	None Supplied	W	1720846	c	pH at 20oC in water (automated)	L099-PL	c
SW015	None Supplied	W	1720847	c	Ammonia as NH3 in water	L082-PL	c
SW015	None Supplied	W	1720847	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW015	None Supplied	W	1720847	c	Ammonium as NH4 in water	L082-PL	c
SW015	None Supplied	W	1720847	c	Biological oxygen demand (total) of water	L086-PL	c
SW015	None Supplied	W	1720847	c	Dissolved Oxygen in water	L086-PL	c
SW015	None Supplied	W	1720847	c	Electrical conductivity at 20oC of water	L031-PL	c
SW015	None Supplied	W	1720847	c	Nitrate as N in water	L078-PL	c
SW015	None Supplied	W	1720847	c	Nitrate in water	L078-PL	c
SW015	None Supplied	W	1720847	c	Nitrite as N in water	L082-PL	c
SW015	None Supplied	W	1720847	c	Nitrite in water	L082-PL	c
SW015	None Supplied	W	1720847	c	pH at 20oC in water (automated)	L099-PL	c
SW016	None Supplied	W	1720848	c	Ammonia as NH3 in water	L082-PL	c
SW016	None Supplied	W	1720848	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW016	None Supplied	W	1720848	c	Ammonium as NH4 in water	L082-PL	c
SW016	None Supplied	W	1720848	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	None Supplied	W	1720848	c	Dissolved Oxygen in water	L086-PL	c
SW016	None Supplied	W	1720848	c	Electrical conductivity at 20oC of water	L031-PL	c
SW016	None Supplied	W	1720848	c	Nitrate as N in water	L078-PL	c
SW016	None Supplied	W	1720848	c	Nitrate in water	L078-PL	c
SW016	None Supplied	W	1720848	c	Nitrite as N in water	L082-PL	c
SW016	None Supplied	W	1720848	c	Nitrite in water	L082-PL	c
SW016	None Supplied	W	1720848	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-50487

Project / Site name:	The London Resort	Samples received on:	07/01/2021
Your job number:		Samples instructed on/ Analysis started on:	07/01/2021
Your order number:		Analysis completed by:	20/01/2021
Report Issue Number:	1	Report issued on:	20/01/2021
Samples Analysed:	6 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

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



Analytical Report Number: 21-50487
Project / Site name: The London Resort

Lab Sample Number	1734580	1734581	1734582	1734583	1734584
Sample Reference	BH203	BH204	BH501	BH502	BH704
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.47-12.20	3.37-11.58	11.95-19.25	12.63-19.80	4.44-5.09
Date Sampled	06/01/2021	06/01/2021	06/01/2021	06/01/2021	06/01/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	pH Units	N/A	ISO 17025	6.7	7.4	7.2	7.0	6.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	2900	1200	910	3300	1700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	1520	48,9	108	496	265
Chloride	mg/l	0,15	ISO 17025	270	170	61	850	190
Ammonia as NH3	µg/l	15	ISO 17025	3500	570	< 15	< 15	< 15
Ammonium as NH4	µg/l	15	ISO 17025	3700	610	< 15	< 15	< 15
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	4,7	1,2	< 0,1	0,3	< 0,1
Nitrate as N	mg/l	0,01	ISO 17025	0,41	0,46	16,3	27,7	43,8
Nitrate as NO3	mg/l	0,05	ISO 17025	1,82	2,02	72	123	194
Nitrite as N	µg/l	1	ISO 17025	< 1,0	< 1,0	61	9,4	33
Nitrite as NO2	µg/l	5	ISO 17025	< 5,0	< 5,0	200	31	110
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	5,0	2,8	< 1,0	< 1,0	< 1,0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	2400	770	690	2600	1500

Hardness - Total	mgCaCO3/l	1	ISO 17025	1930	376	442	1140	1180
Dissolved Oxygen	mg/l	1	NONE	1.5	1.4	1.4	4.8	4.0

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16	< 0,16
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Analytical Report Number: 21-50487
Project / Site name: The London Resort

Lab Sample Number	1734580				1734581	1734582	1734583	1734584
Sample Reference	BH203				BH204	BH501	BH502	BH704
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.47-12.20				3.37-11.58	11.95-19.25	12.63-19.80	4.44-5.09
Date Sampled	06/01/2021				06/01/2021	06/01/2021	06/01/2021	06/01/2021
Time Taken	None Supplied				None Supplied	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	1734580	1734581	1734582	1734583	1734584
Boron (dissolved)	µg/l	10	ISO 17025	600	270	110	460	54
Calcium (dissolved)	mg/l	0.012	ISO 17025	610	95	160	430	450
Magnesium (dissolved)	mg/l	0.005	ISO 17025	100	34	9.3	17	14

Phosphorus (total)	Units	Limit of detection	Accreditation Status	1734580	1734581	1734582	1734583	1734584
	µg/l	20	ISO 17025	1200	740	1200	870	5100

Parameter	Units	Limit of detection	Accreditation Status	1734580	1734581	1734582	1734583	1734584
Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.83	1.07	0.46	2.23	1.06
Barium (dissolved)	µg/l	0.06	ISO 17025	58	56	47	81	130
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02	0.16
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.0	2.6	3.7	33	3.7
Copper (dissolved)	µg/l	0.5	ISO 17025	2.7	3.2	6.7	7.6	6.5
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	12	4.9	4.2	6.3	9.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	8.9	2.0	3.4	19	6.3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.7	0.3	0.8	2.8	1.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	16	17	16	15

Monoaromatics & Oxygenates

Parameter	Units	Limit of detection	Accreditation Status	1734580	1734581	1734582	1734583	1734584
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

Parameter	Units	Limit of detection	Accreditation Status	1734580	1734581	1734582	1734583	1734584
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 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

Parameter	Units	Limit of detection	Accreditation Status	1734580	1734581	1734582	1734583	1734584
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-50487
 Project / Site name: The London Resort

Lab Sample Number				1734585
Sample Reference				BH705
Sample Number				None Supplied
Depth (m)				4.72-19.02
Date Sampled				06/01/2021
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH	pH Units	N/A	ISO 17025	7.2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	890
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	112
Chloride	mg/l	0.15	ISO 17025	40
Ammonia as NH3	µg/l	15	ISO 17025	58
Ammonium as NH4	µg/l	15	ISO 17025	62
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.3
Nitrate as N	mg/l	0.01	ISO 17025	18.6
Nitrate as NO3	mg/l	0.05	ISO 17025	82.4
Nitrite as N	µg/l	1	ISO 17025	6
Nitrite as NO2	µg/l	5	ISO 17025	20
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.3
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	700

Hardness - Total	mgCaCO3/l	1	ISO 17025	442
Dissolved Oxygen	mg/l	1	NONE	6.2

Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
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Analytical Report Number: 21-50487
Project / Site name: The London Resort

Lab Sample Number				1734585
Sample Reference				BH705
Sample Number				None Supplied
Depth (m)				4.72-19.02
Date Sampled				06/01/2021
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	45
Calcium (dissolved)	mg/l	0.012	ISO 17025	170
Magnesium (dissolved)	mg/l	0.005	ISO 17025	7.3

Phosphorus (total)	µg/l	20	ISO 17025	640
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.86
Barium (dissolved)	µg/l	0.06	ISO 17025	71
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.0
Copper (dissolved)	µg/l	0.5	ISO 17025	6.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.0
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	8.7

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

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



Analytical Report Number : 21-50487
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination,	In house method based on BS 7755-3.7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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 : 21-50487
Project / Site name: The London Resort

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
Ammonium as NH ₄ 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
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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.

Sample Deviation Report



Analytical Report Number : 21-50487
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1734580	c	Ammonia as NH3 in water	L082-PL	c
BH203	None Supplied	W	1734580	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	None Supplied	W	1734580	c	Ammonium as NH4 in water	L082-PL	c
BH203	None Supplied	W	1734580	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1734580	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1734580	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	None Supplied	W	1734580	c	Nitrate as N in water	L078-PL	c
BH203	None Supplied	W	1734580	c	Nitrate in water	L078-PL	c
BH203	None Supplied	W	1734580	c	Nitrite as N in water	L082-PL	c
BH203	None Supplied	W	1734580	c	Nitrite in water	L082-PL	c
BH203	None Supplied	W	1734580	c	pH at 20oC in water (automated)	L099-PL	c
BH204	None Supplied	W	1734581	c	Ammonia as NH3 in water	L082-PL	c
BH204	None Supplied	W	1734581	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH204	None Supplied	W	1734581	c	Ammonium as NH4 in water	L082-PL	c
BH204	None Supplied	W	1734581	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1734581	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1734581	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	None Supplied	W	1734581	c	Nitrate as N in water	L078-PL	c
BH204	None Supplied	W	1734581	c	Nitrate in water	L078-PL	c
BH204	None Supplied	W	1734581	c	Nitrite as N in water	L082-PL	c
BH204	None Supplied	W	1734581	c	Nitrite in water	L082-PL	c
BH204	None Supplied	W	1734581	c	pH at 20oC in water (automated)	L099-PL	c
BH501	None Supplied	W	1734582	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1734582	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH501	None Supplied	W	1734582	c	Ammonium as NH4 in water	L082-PL	c
BH501	None Supplied	W	1734582	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	None Supplied	W	1734582	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1734582	c	Electrical conductivity at 20oC of water	L031-PL	c
BH501	None Supplied	W	1734582	c	Nitrate as N in water	L078-PL	c
BH501	None Supplied	W	1734582	c	Nitrate in water	L078-PL	c
BH501	None Supplied	W	1734582	c	Nitrite as N in water	L082-PL	c
BH501	None Supplied	W	1734582	c	Nitrite in water	L082-PL	c
BH501	None Supplied	W	1734582	c	pH at 20oC in water (automated)	L099-PL	c
BH502	None Supplied	W	1734583	c	Ammonia as NH3 in water	L082-PL	c
BH502	None Supplied	W	1734583	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH502	None Supplied	W	1734583	c	Ammonium as NH4 in water	L082-PL	c
BH502	None Supplied	W	1734583	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1734583	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1734583	c	Electrical conductivity at 20oC of water	L031-PL	c
BH502	None Supplied	W	1734583	c	Nitrate as N in water	L078-PL	c
BH502	None Supplied	W	1734583	c	Nitrate in water	L078-PL	c
BH502	None Supplied	W	1734583	c	Nitrite as N in water	L082-PL	c
BH502	None Supplied	W	1734583	c	Nitrite in water	L082-PL	c
BH502	None Supplied	W	1734583	c	pH at 20oC in water (automated)	L099-PL	c
BH704	None Supplied	W	1734584	c	Ammonia as NH3 in water	L082-PL	c
BH704	None Supplied	W	1734584	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH704	None Supplied	W	1734584	c	Ammonium as NH4 in water	L082-PL	c
BH704	None Supplied	W	1734584	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	None Supplied	W	1734584	c	Dissolved Oxygen in water	L086-PL	c
BH704	None Supplied	W	1734584	c	Electrical conductivity at 20oC of water	L031-PL	c
BH704	None Supplied	W	1734584	c	Nitrate as N in water	L078-PL	c
BH704	None Supplied	W	1734584	c	Nitrate in water	L078-PL	c
BH704	None Supplied	W	1734584	c	Nitrite as N in water	L082-PL	c
BH704	None Supplied	W	1734584	c	Nitrite in water	L082-PL	c
BH704	None Supplied	W	1734584	c	pH at 20oC in water (automated)	L099-PL	c
BH705	None Supplied	W	1734585	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1734585	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	None Supplied	W	1734585	c	Ammonium as NH4 in water	L082-PL	c
BH705	None Supplied	W	1734585	c	Biological oxygen demand (total) of water	L086-PL	c

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

Sample Deviation Report



Analytical Report Number : 21-50487
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1734580	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1734585	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1734585	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	None Supplied	W	1734585	c	Nitrate as N in water	L078-PL	c
BH705	None Supplied	W	1734585	c	Nitrate in water	L078-PL	c
BH705	None Supplied	W	1734585	c	Nitrite as N in water	L082-PL	c
BH705	None Supplied	W	1734585	c	Nitrite in water	L082-PL	c
BH705	None Supplied	W	1734585	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-53292

Project / Site name:	The London Resort	Samples received on:	26/01/2021
Your job number:		Samples instructed on/ Analysis started on:	26/01/2021
Your order number:		Analysis completed by:	04/02/2021
Report Issue Number:	1	Report issued on:	04/02/2021
Samples Analysed:	9 water samples		



Signed:

Zina Abdul Razzak
Senior Quality 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

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



Analytical Report Number: 21-53292
Project / Site name: The London Resort

Lab Sample Number	1749288				1749289	1749290	1749291	1749292
Sample Reference	SW002				SW005	SW007	SW004	SW009
Sample Number	SW002				SW005	SW007	SW004	SW009
Depth (m)	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	25/01/2021				25/01/2021	25/01/2021	25/01/2021	25/01/2021
Time Taken	0900				0915	0927	0950	1015
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

Parameter	Units	N/A	ISO 17025	7.9	8.1	7.7	10.4	7.9
pH	pH Units		ISO 17025	7.9	8.1	7.7	10.4	7.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1800	1200	3000	7500	1900
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	129000	237000	829000	1160000	322000
Chloride	mg/l	0.15	ISO 17025	470	180	660	950	450
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	190	360	200	190	750
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	200	380	210	200	790
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.7	0.4	0.5	2.2	0.4
Nitrate as N	mg/l	0.01	ISO 17025	0.16	7.2	0.22	0.31	0.73
Nitrate as NO3	mg/l	0.05	ISO 17025	0.71	31.9	0.96	1.37	3.24
Nitrite as N	µg/l	1	ISO 17025	4.7	67	1.7	870	28
Nitrite as NO2	µg/l	5	ISO 17025	15	220	5.6	2900	92
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.9	1.5	1.5	7.9	2.2
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1200	840	2300	4600	1400

Hardness - Total	mgCaCO3/l	1	ISO 17025	553	399	930	32.3	623
Dissolved Oxygen	mg/l	1	NONE	5.6	6.9	5.9	7.2	6.4

Total Phenols

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

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

Total PAH

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

Boron (dissolved)	µg/l	10	ISO 17025	150	120	570	83	1100
Calcium (dissolved)	mg/l	0.012	ISO 17025	150	140	230	8.3	180
Magnesium (dissolved)	mg/l	0.005	ISO 17025	44	12	84	2.8	44
Phosphorus (total)	mg/l	0.02	ISO 17025	0.33	0.55	0.46	0.16	0.17
Phosphorus (total)	µg/l	20	ISO 17025	330	550	460	160	170

Analytical Report Number: 21-53292
Project / Site name: The London Resort

Lab Sample Number				1749288	1749289	1749290	1749291	1749292
Sample Reference				SW002	SW005	SW007	SW004	SW009
Sample Number				SW002	SW005	SW007	SW004	SW009
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				25/01/2021	25/01/2021	25/01/2021	25/01/2021	25/01/2021
Time Taken				0900	0915	0927	0950	1015
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					
				Arsenic (dissolved)	µg/l	0.15	ISO 17025	6,05
Barium (dissolved)	µg/l	0,06	ISO 17025	54	37	47	6,7	68
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	0,02	0,06	0,21	0,89
Chromium (dissolved)	µg/l	0,2	ISO 17025	2,9	2,3	3,8	6,8	3,9
Copper (dissolved)	µg/l	0,5	ISO 17025	5,5	6,3	6,4	13	15
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2	< 0,2	0,3	0,7	5,9
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	0,14	0,51
Nickel (dissolved)	µg/l	0,5	ISO 17025	3,4	5,5	11	35	13
Selenium (dissolved)	µg/l	0,6	ISO 17025	6,2	4,2	12	45	7
Vanadium (dissolved)	µg/l	0,2	ISO 17025	4,8	4,1	7,9	200	5,8
Zinc (dissolved)	µg/l	0,5	ISO 17025	14	14	20	9,3	190

Monoaromatics & Oxygenates

	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
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 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-53292
Project / Site name: The London Resort

Lab Sample Number	1749293			1749294	1749295	1749296
Sample Reference	SW012			BH704	SW016	BH705
Sample Number	SW012			BH704	SW016	BH705
Depth (m)	None Supplied			4.38-5.08	None Supplied	2.42-19.01
Date Sampled	25/01/2021			25/01/2021	25/01/2021	25/01/2021
Time Taken	1030			1145	1203	1230
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

Parameter	Units	N/A	ISO 17025	1749293	1749294	1749295	1749296
pH	pH Units	N/A	ISO 17025	7.9	7.3	7.9	7.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	660	1400	670	700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	140000	310000	48100	151000
Chloride	mg/l	0.15	ISO 17025	51	110	50	63
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	54	< 15	< 15	< 15
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	57	< 15	< 15	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.2	< 0.1	< 0.1	< 0.1
Nitrate as N	mg/l	0.01	ISO 17025	4.75	62.4	12.9	18.8
Nitrate as NO3	mg/l	0.05	ISO 17025	21	277	56.9	83.4
Nitrite as N	µg/l	1	ISO 17025	27	23	< 1.0	4.6
Nitrite as NO2	µg/l	5	ISO 17025	87	76	< 5.0	15
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.6	2.5	1	1.6
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	490	1300	470	640

Hardness - Total	mgCaCO3/l	1	ISO 17025	383	1230	414	596
Dissolved Oxygen	mg/l	1	NONE	7.5	4.2	9.9	9.7

Total Phenols

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

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

Total PAH

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

Boron (dissolved)	µg/l	10	ISO 17025	80	64	38	45
Calcium (dissolved)	mg/l	0.012	ISO 17025	140	470	160	230
Magnesium (dissolved)	mg/l	0.005	ISO 17025	8.3	13	4.8	7.3

Phosphorus (total)	mg/l	0.02	ISO 17025	0.34	6.2	0.052	0.53
Phosphorus (total)	µg/l	20	ISO 17025	340	6200	52	530

Analytical Report Number: 21-53292
Project / Site name: The London Resort

Lab Sample Number				1749293	1749294	1749295	1749296
Sample Reference				SW012	BH704	SW016	BH705
Sample Number				SW012	BH704	SW016	BH705
Depth (m)				None Supplied	4.38-5.08	None Supplied	2.42-19.01
Date Sampled				25/01/2021	25/01/2021	25/01/2021	25/01/2021
Time Taken				1030	1145	1203	1230
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	7,85	1,8	0,41	0,48
Barium (dissolved)	µg/l	0,06	ISO 17025	36	110	38	48
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	0,02	0,13	< 0,02	< 0,02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2	6,5	2,8	2,8
Copper (dissolved)	µg/l	0,5	ISO 17025	6,5	7,1	3,8	2,2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	4,3	37	3,2	4,1
Selenium (dissolved)	µg/l	0.6	ISO 17025	1,4	11	1,2	1,5
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.6	2,8	0,6	0,6
Zinc (dissolved)	µg/l	0,5	ISO 17025	25	27	11	12

Monoaromatics & Oxygenates

Parameter	Units	Limit of detection	Accreditation Status				
Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-53292
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-53292
Project / Site name: The London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 30°C.

Sample Deviation Report



Analytical Report Number : 21-53292
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH704	BH704	W	1749294	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	BH704	W	1749294	c	Dissolved Oxygen in water	L086-PL	c
BH705	BH705	W	1749296	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	BH705	W	1749296	c	Dissolved Oxygen in water	L086-PL	c
SW002	SW002	W	1749288	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	SW002	W	1749288	c	Dissolved Oxygen in water	L086-PL	c
SW004	SW004	W	1749291	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	SW004	W	1749291	c	Dissolved Oxygen in water	L086-PL	c
SW005	SW005	W	1749289	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	SW005	W	1749289	c	Dissolved Oxygen in water	L086-PL	c
SW007	SW007	W	1749290	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	SW007	W	1749290	c	Dissolved Oxygen in water	L086-PL	c
SW009	SW009	W	1749292	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	SW009	W	1749292	c	Dissolved Oxygen in water	L086-PL	c
SW012	SW012	W	1749293	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	SW012	W	1749293	c	Dissolved Oxygen in water	L086-PL	c
SW016	SW016	W	1749295	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	SW016	W	1749295	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-53427

Project / Site name:	The London Resort	Samples received on:	27/01/2021
Your job number:		Samples instructed on/ Analysis started on:	28/01/2021
Your order number:		Analysis completed by:	05/02/2021
Report Issue Number:	1	Report issued on:	05/02/2021
Samples Analysed:	7 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

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



Analytical Report Number: 21-53427
Project / Site name: The London Resort

Lab Sample Number	1750048				1750049	1750050	1750051	1750052
Sample Reference	WS101				WS102	BH101	WS202	WS203
Sample Number	WS101				WS102	BH101	WS202	WS203
Depth (m)	3.06-5.35				3.10-5.31	4.85-39.20	8.44-10.43	1.43-4.46
Date Sampled	26/01/2021				26/01/2021	26/01/2021	26/01/2021	26/01/2021
Time Taken	1015				1030	1050	1130	1200
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

Parameter	Units	N/A	ISO 17025	1750048	1750049	1750050	1750051	1750052
pH	pH Units			8.9	12.6	7.2	13.1	13
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	92000	11000	17000	70000	41000
Total Cyanide	µg/l	10	ISO 17025	22	< 10	< 10	23	15
Sulphate as SO4	µg/l	45	ISO 17025	10400000	224000	1090000	11900000	4240000
Chloride	mg/l	0.15	ISO 17025	34000	990	11000	6500	4900
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	860	8600	9200	42000	28000
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	910	9200	9700	45000	30000
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	150	0.2	3.4	21	27
Nitrate as N	mg/l	0.01	ISO 17025	1.23	1.1	0.23	0.19	0.32
Nitrate as NO3	mg/l	0.05	ISO 17025	5.46	4.85	1.01	0.86	1.42
Nitrite as N	µg/l	1	ISO 17025	12	330	< 1.0	6.3	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	38	1100	< 5.0	21	< 5.0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	11	< 1.0	7.4	1	53
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	62000	4800	14000	39000	20000

Hardness - Total	mgCaCO3/l	1	ISO 17025	1090	24.3	3030	20.3	81.6
Dissolved Oxygen	mg/l	1	NONE	< 1.0	4.8	1.8	4.1	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	91	< 10	< 10	780	1100
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Speciated PAHs

Parameter	Units	Limit of detection	ISO 17025	1750048	1750049	1750050	1750051	1750052
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

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

Analytical Report Number: 21-53427
Project / Site name: The London Resort

Lab Sample Number	1750048				1750049	1750050	1750051	1750052
Sample Reference	WS101				WS102	BH101	WS202	WS203
Sample Number	WS101				WS102	BH101	WS202	WS203
Depth (m)	3.06-5.35		3.10-5.31		4.85-39.20	8.44-10.43	1.43-4.46	
Date Sampled	26/01/2021		26/01/2021		26/01/2021	26/01/2021	26/01/2021	
Time Taken	1015		1030		1050	1130	1200	
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Element	Units	Limit of detection	Accreditation Status	1750048	1750049	1750050	1750051	1750052
Boron (dissolved)	µg/l	10	ISO 17025	760	26	1400	70	120
Calcium (dissolved)	mg/l	0.012	ISO 17025	59	9.7	240	8.1	33
Magnesium (dissolved)	mg/l	0.005	ISO 17025	230	0.043	590	0.037	0.045
Selenium (dissolved)	µg/l	4	ISO 17025	27	27	< 4.0	430	160

Phosphorus (total)	µg/l	20	ISO 17025	8400	630	510	100	170
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	5.89	8.33	58.2	20.7	19.9
Barium (dissolved)	µg/l	0.06	ISO 17025	11	29	130	8.5	26
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.21	0.04	< 0.02	0.19	0.46
Chromium (dissolved)	µg/l	0.2	ISO 17025	7.8	100	8.8	10	4.6
Copper (dissolved)	µg/l	0.5	ISO 17025	24	32	74	11	68
Lead (dissolved)	µg/l	0.2	ISO 17025	7.2	6.5	< 0.2	1	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.06	< 0.05	0.06	0.19
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.5	0.7	11	53	610
Selenium (dissolved)	µg/l	0.6	ISO 17025	U/S*	U/S*	U/S*	U/S*	U/S*
Vanadium (dissolved)	µg/l	0.2	ISO 17025	11	20	48	71	160
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.7	6.5	6.8	7.2	20

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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

* U/S for Se on ICP-MS due to matrix interference.



Analytical Report Number: 21-53427
Project / Site name: The London Resort

Lab Sample Number				1750053	1750054
Sample Reference				BH202	BH201
Sample Number				BH202	BH201
Depth (m)				3.47-30.44	3.95-6.73
Date Sampled				26/01/2021	26/01/2021
Time Taken				1220	1250
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH Units	N/A	ISO 17025	7.2	12
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	8600	4600
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	650000	606000
Chloride	mg/l	0.15	ISO 17025	8800	300
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4900	3100
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	5200	3300
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1.9	2.1
Nitrate as N	mg/l	0.01	ISO 17025	0.64	0.61
Nitrate as NO3	mg/l	0.05	ISO 17025	2.83	2.68
Nitrite as N	µg/l	1	ISO 17025	< 1.0	190
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	640
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	9.8	2.3
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	8700	2400

Hardness - Total	mgCaCO3/l	1	ISO 17025	1820	21
Dissolved Oxygen	mg/l	1	NONE	2.6	2.1

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	64	18
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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	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
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	< 0.16
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Analytical Report Number: 21-53427
Project / Site name: The London Resort

Lab Sample Number				1750053	1750054
Sample Reference				BH202	BH201
Sample Number				BH202	BH201
Depth (m)				3.47-30.44	3.95-6.73
Date Sampled				26/01/2021	26/01/2021
Time Taken				1220	1250
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	730	59
Calcium (dissolved)	mg/l	0.012	ISO 17025	410	8.3
Magnesium (dissolved)	mg/l	0.005	ISO 17025	190	0.037
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	19

Phosphorus (total)	µg/l	20	ISO 17025	240	140
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	32.5	53.2
Barium (dissolved)	µg/l	0.06	ISO 17025	95	6.8
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.09
Chromium (dissolved)	µg/l	0.2	ISO 17025	7.4	10
Copper (dissolved)	µg/l	0.5	ISO 17025	38	21
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.1
Nickel (dissolved)	µg/l	0.5	ISO 17025	20	16
Selenium (dissolved)	µg/l	0.6	ISO 17025	U/S*	U/S*
Vanadium (dissolved)	µg/l	0.2	ISO 17025	26	480
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.9	5

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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

* U/S for Se on ICP-MS due to matrix interference.



Analytical Report Number : 21-53427
Project / Site name: The London Resort

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-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-53427
Project / Site name: The London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 30°C.

Sample Deviation Report



Analytical Report Number : 21-53427
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	BH101	W	1750050	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	BH101	W	1750050	c	Dissolved Oxygen in water	L086-PL	c
BH201	BH201	W	1750054	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	BH201	W	1750054	c	Dissolved Oxygen in water	L086-PL	c
BH202	BH202	W	1750053	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	BH202	W	1750053	c	Dissolved Oxygen in water	L086-PL	c
WS101	WS101	W	1750048	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	WS101	W	1750048	c	Dissolved Oxygen in water	L086-PL	c
WS102	WS102	W	1750049	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	WS102	W	1750049	c	Dissolved Oxygen in water	L086-PL	c
WS202	WS202	W	1750051	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	WS202	W	1750051	c	Dissolved Oxygen in water	L086-PL	c
WS203	WS203	W	1750052	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	WS203	W	1750052	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-53987

Project / Site name:	The London Resort	Samples received on:	29/01/2021
Your job number:		Samples instructed on/ Analysis started on:	28/01/2021
Your order number:		Analysis completed by:	08/02/2021
Report Issue Number:	1	Report issued on:	08/02/2021
Samples Analysed:	2 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

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



Analytical Report Number: 21-53987
Project / Site name: The London Resort

Lab Sample Number				1753490	1753491
Sample Reference				SW013	SW014
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				28/01/2021	28/01/2021
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	8.1	7.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	800	890
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	132000	49700
Chloride	mg/l	0.15	ISO 17025	64	160
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	39	33
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	41	35
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.7	0.6
Nitrate as N	mg/l	0.01	ISO 17025	4.27	7.91
Nitrate as NO3	mg/l	0.05	ISO 17025	18.9	35
Nitrite as N	µg/l	1	ISO 17025	18	22
Nitrite as NO2	µg/l	5	ISO 17025	59	71
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	560	580

Hardness - Total	mgCaCO3/l	1	ISO 17025	416	339
Dissolved Oxygen	mg/l	1	NONE	9.7	8.5

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
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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	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
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	< 0.16
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Analytical Report Number: 21-53987
Project / Site name: The London Resort

Lab Sample Number				1753490	1753491
Sample Reference				SW013	SW014
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				28/01/2021	28/01/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	81	31
Calcium (dissolved)	mg/l	0.012	ISO 17025	150	130
Magnesium (dissolved)	mg/l	0.005	ISO 17025	9.1	4.2

Phosphorus (total)	µg/l	20	ISO 17025	< 20	75
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.2	1.09
Barium (dissolved)	µg/l	0.06	ISO 17025	34	43
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2	1.8
Copper (dissolved)	µg/l	0.5	ISO 17025	3.1	4.3
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.5	2.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.3	0.9
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.8	1.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.9	22

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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

Analytical Report Number : 21-53987
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-53987
Project / Site name: The London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 30°C.

Sample Deviation Report



Analytical Report Number : 21-53987
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW013	None Supplied	W	1753490	c	Ammonia as NH3 in water	L082-PL	c
SW013	None Supplied	W	1753490	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW013	None Supplied	W	1753490	c	Ammonium as NH4 in water	L082-PL	c
SW013	None Supplied	W	1753490	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	None Supplied	W	1753490	c	Dissolved Oxygen in water	L086-PL	c
SW013	None Supplied	W	1753490	c	Electrical conductivity at 20oC of water	L031-PL	c
SW013	None Supplied	W	1753490	c	pH at 20oC in water (automated)	L099-PL	c
SW014	None Supplied	W	1753491	c	Ammonia as NH3 in water	L082-PL	c
SW014	None Supplied	W	1753491	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW014	None Supplied	W	1753491	c	Ammonium as NH4 in water	L082-PL	c
SW014	None Supplied	W	1753491	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	None Supplied	W	1753491	c	Dissolved Oxygen in water	L086-PL	c
SW014	None Supplied	W	1753491	c	Electrical conductivity at 20oC of water	L031-PL	c
SW014	None Supplied	W	1753491	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-54778

Project / Site name:	The London Resort	Samples received on:	28/01/2021
Your job number:		Samples instructed on/ Analysis started on:	04/02/2021
Your order number:		Analysis completed by:	15/02/2021
Report Issue Number:	1	Report issued on:	15/02/2021
Samples Analysed:	4 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

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

Analytical Report Number: 21-54778
Project / Site name: The London Resort

Lab Sample Number	1758397			1758398	1758399	1758400
Sample Reference	BH203			BH204	BH501	BH502
Sample Number	None Supplied			None Supplied	None Supplied	None Supplied
Depth (m)	3.40-12.20			3.33-11.59	11.29-19.28	12.49-19.79
Date Sampled	27/01/2021			27/01/2021	27/01/2021	27/01/2021
Time Taken	None Supplied			None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status			

General Inorganics

Parameter	Units	N/A	ISO 17025	1758397	1758398	1758399	1758400
pH	pH Units			6.7	7.2	7.2	7.2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	3400	1300	1300	4700
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	1410000	65200	132000	533000
Chloride	mg/l	0.15	ISO 17025	260	170	150	1100
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	3900	1000	< 15	40
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4100	1100	< 15	43
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	4.3	1	0.7	0.9
Nitrate as N	mg/l	0.01	ISO 17025	0.29	0.18	15.4	26.8
Nitrate as NO3	mg/l	0.05	ISO 17025	1.26	0.81	68.3	119
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	5.8
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	19
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	8.4	1.2	< 1.0	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	2200	750	730	3000

Hardness - Total	mgCaCO3/l	1	ISO 17025	2070	408	529	1120
Dissolved Oxygen	mg/l	1	NONE	1.1	< 1.0	5.4	5.4

Total Phenols

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

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-54778
Project / Site name: The London Resort

Lab Sample Number				1758397	1758398	1758399	1758400
Sample Reference				BH203	BH204	BH501	BH502
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.40-12.20	3.33-11.59	11.29-19.28	12.49-19.79
Date Sampled				27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Taken				None Supplied	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	590	290	110	500
Calcium (dissolved)	mg/l	0.012	ISO 17025	650	100	200	430
Magnesium (dissolved)	mg/l	0.005	ISO 17025	110	36	9.1	14

Phosphorus (total)	µg/l	20	ISO 17025	780	480	710	720
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.29	1.64	1.27	12
Barium (dissolved)	µg/l	0.06	ISO 17025	48	47	45	65
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.02	< 0.02	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	7.3	3.8	22	57
Copper (dissolved)	µg/l	0.5	ISO 17025	7.6	3.4	4.4	9.2
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	22	6.3	6.5	11
Selenium (dissolved)	µg/l	0.6	ISO 17025	14	3.9	5.3	27
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.6	1.3	1.3	18
Zinc (dissolved)	µg/l	0.5	ISO 17025	10	5.8	17	8.8

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-54778
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-54778
Project / Site name: The London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 30°C.

Sample Deviation Report



Analytical Report Number : 21-54778
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1758397	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH203	None Supplied	W	1758397	c	Ammonia as NH3 in water	L082-PL	c
BH203	None Supplied	W	1758397	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	None Supplied	W	1758397	c	Ammonium as NH4 in water	L082-PL	c
BH203	None Supplied	W	1758397	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1758397	c	Boron in water	L039-PL	c
BH203	None Supplied	W	1758397	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1758397	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	None Supplied	W	1758397	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH203	None Supplied	W	1758397	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH203	None Supplied	W	1758397	c	Metals in water by ICP-OES (total)	L039-PL	c
BH203	None Supplied	W	1758397	c	Nitrate as N in water	L078-PL	c
BH203	None Supplied	W	1758397	c	Nitrate in water	L078-PL	c
BH203	None Supplied	W	1758397	c	Nitrite as N in water	L082-PL	c
BH203	None Supplied	W	1758397	c	Nitrite in water	L082-PL	c
BH203	None Supplied	W	1758397	c	Sulphate in water	L039-PL	c
BH203	None Supplied	W	1758397	c	Total Hardness of water	L045-PL	c
BH203	None Supplied	W	1758397	c	Total cyanide in water	L080-PL	c
BH203	None Supplied	W	1758397	c	pH at 20oC in water (automated)	L099-PL	c
BH204	None Supplied	W	1758398	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH204	None Supplied	W	1758398	c	Ammonia as NH3 in water	L082-PL	c
BH204	None Supplied	W	1758398	c	Ammoniacal Nitrogen as N In water	L082-PL	c
BH204	None Supplied	W	1758398	c	Ammonium as NH4 in water	L082-PL	c
BH204	None Supplied	W	1758398	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1758398	c	Boron in water	L039-PL	c
BH204	None Supplied	W	1758398	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1758398	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	None Supplied	W	1758398	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH204	None Supplied	W	1758398	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH204	None Supplied	W	1758398	c	Metals in water by ICP-OES (total)	L039-PL	c
BH204	None Supplied	W	1758398	c	Nitrate as N in water	L078-PL	c
BH204	None Supplied	W	1758398	c	Nitrate in water	L078-PL	c
BH204	None Supplied	W	1758398	c	Nitrite as N in water	L082-PL	c
BH204	None Supplied	W	1758398	c	Nitrite in water	L082-PL	c
BH204	None Supplied	W	1758398	c	Sulphate in water	L039-PL	c
BH204	None Supplied	W	1758398	c	Total Hardness of water	L045-PL	c
BH204	None Supplied	W	1758398	c	Total cyanide in water	L080-PL	c
BH204	None Supplied	W	1758398	c	pH at 20oC in water (automated)	L099-PL	c
BH501	None Supplied	W	1758399	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH501	None Supplied	W	1758399	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1758399	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH501	None Supplied	W	1758399	c	Ammonium as NH4 in water	L082-PL	c
BH501	None Supplied	W	1758399	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	None Supplied	W	1758399	c	Boron in water	L039-PL	c
BH501	None Supplied	W	1758399	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1758399	c	Electrical conductivity at 20oC of water	L031-PL	c
BH501	None Supplied	W	1758399	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH501	None Supplied	W	1758399	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH501	None Supplied	W	1758399	c	Metals in water by ICP-OES (total)	L039-PL	c
BH501	None Supplied	W	1758399	c	Nitrate as N in water	L078-PL	c
BH501	None Supplied	W	1758399	c	Nitrate in water	L078-PL	c
BH501	None Supplied	W	1758399	c	Nitrite as N in water	L082-PL	c
BH501	None Supplied	W	1758399	c	Nitrite in water	L082-PL	c
BH501	None Supplied	W	1758399	c	Sulphate in water	L039-PL	c
BH501	None Supplied	W	1758399	c	Total Hardness of water	L045-PL	c
BH501	None Supplied	W	1758399	c	Total cyanide in water	L080-PL	c
BH501	None Supplied	W	1758399	c	pH at 20oC in water (automated)	L099-PL	c
BH502	None Supplied	W	1758400	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH502	None Supplied	W	1758400	c	Ammonia as NH3 in water	L082-PL	c

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

Sample Deviation Report



Analytical Report Number : 21-54778
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1758397	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
BH502	None Supplied	W	1758400	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH502	None Supplied	W	1758400	c	Ammonium as NH4 in water	L082-PL	c
BH502	None Supplied	W	1758400	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1758400	c	Boron in water	L039-PL	c
BH502	None Supplied	W	1758400	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1758400	c	Electrical conductivity at 20oC of water	L031-PL	c
BH502	None Supplied	W	1758400	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
BH502	None Supplied	W	1758400	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
BH502	None Supplied	W	1758400	c	Metals in water by ICP-OES (total)	L039-PL	c
BH502	None Supplied	W	1758400	c	Nitrate as N in water	L078-PL	c
BH502	None Supplied	W	1758400	c	Nitrate in water	L078-PL	c
BH502	None Supplied	W	1758400	c	Nitrite as N in water	L082-PL	c
BH502	None Supplied	W	1758400	c	Nitrite in water	L082-PL	c
BH502	None Supplied	W	1758400	c	Sulphate in water	L039-PL	c
BH502	None Supplied	W	1758400	c	Total Hardness of water	L045-PL	c
BH502	None Supplied	W	1758400	c	Total cyanide in water	L080-PL	c
BH502	None Supplied	W	1758400	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-58037

Project / Site name:	The London Resort	Samples received on:	22/02/2021
Your job number:		Samples instructed on/ Analysis started on:	22/02/2021
Your order number:		Analysis completed by:	02/03/2021
Report Issue Number:	1	Report issued on:	02/03/2021
Samples Analysed:	9 water samples		

Signed: [Redacted]

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

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



Analytical Report Number: 21-58037
Project / Site name: The London Resort

Lab Sample Number				1777222	1777223	1777224	1777225	1777226
Sample Reference				SW002	SW004	SW005	SW007	SW009
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/02/2021	19/02/2021	19/02/2021	19/02/2021	19/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

	pH Units	N/A	ISO 17025	7,5	10,7	7,8	7,6	7,6
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1700	7600	830	950	4200
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	134	1200	151	150	279
Chloride	mg/l	0,15	ISO 17025	460	1400	100	150	1200
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	110	1200	110	74	150
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	120	1300	120	78	160
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	1	1,5	1	0,4	0,9
Nitrate as N	mg/l	0,01	ISO 17025	0,24	0,29	5,74	1,07	2,76
Nitrate as NO3	mg/l	0,05	ISO 17025	1,08	1,29	25,4	4,74	12,2
Nitrite as N	µg/l	1	ISO 17025	4,1	890	60	16	29
Nitrite as NO2	µg/l	5	ISO 17025	13	2900	200	51	94
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	11	6,7	1,7	1,8	1,4
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	920	5200	540	550	2900

	mgCaCO3/l	1	ISO 17025	441	25,3	331	348	790
Hardness - Total								
Dissolved Oxygen	mg/l	1	NONE	1,4	1,1	5,3	3,3	7,9

Total Phenols

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

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene								
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-58037
Project / Site name: The London Resort

Lab Sample Number	1777222	1777223	1777224	1777225	1777226
Sample Reference	SW002	SW004	SW005	SW007	SW009
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	19/02/2021	19/02/2021	19/02/2021	19/02/2021	19/02/2021
Time Taken	None Supplied	None Supplied	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	140	100	140	160	570
Calcium (dissolved)	mg/l	0,012	ISO 17025	130	7,2	120	120	150
Magnesium (dissolved)	mg/l	0,005	ISO 17025	27	1,8	9,2	12	100

Phosphorus (total)	µg/l	20	ISO 17025	320	140	200	190	160
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	7,47	72,5	6,81	6,51	20,1
Barium (dissolved)	µg/l	0,06	ISO 17025	41	7,3	31	37	73
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	0,2	< 0,02	< 0,02	0,72
Chromium (dissolved)	µg/l	0,2	ISO 17025	4	6,9	3,3	3,3	4,8
Copper (dissolved)	µg/l	0,5	ISO 17025	33	39	4,7	8,5	15
Lead (dissolved)	µg/l	0,2	ISO 17025	1,1	0,5	< 0,2	< 0,2	1,8
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	3,5	37	4,1	3,2	8,3
Selenium (dissolved)	µg/l	0,6	ISO 17025	5,7	40	3,7	2,8	7,3
Vanadium (dissolved)	µg/l	0,2	ISO 17025	6,8	190	4,3	3,4	12
Zinc (dissolved)	µg/l	0,5	ISO 17025	3,8	9,4	5,7	4,3	110

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

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 - C35	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	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-58037
Project / Site name: The London Resort

Lab Sample Number				1777227	1777228	1777229	1777230
Sample Reference				SW012	SW013	SW014	SW016
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/02/2021	19/02/2021	19/02/2021	19/02/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

	pH Units	N/A	ISO 17025	7,7	8,1	7,7	7,8
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	610	850	750	630
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	131	121	65,3	49,9
Chloride	mg/l	0,15	ISO 17025	49	65	55	47
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	95	38	< 15	< 15
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	100	40	< 15	< 15
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,5	2,4	0,7	0,4
Nitrate as N	mg/l	0,01	ISO 17025	3,59	4,68	12	13,3
Nitrate as NO3	mg/l	0,05	ISO 17025	15,9	20,7	53	58,8
Nitrite as N	µg/l	1	ISO 17025	36	15	18	1,3
Nitrite as NO2	µg/l	5	ISO 17025	120	49	58	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,1	< 1,0	< 1,0	< 1,0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	400	480	380	360

	mgCaCO3/l	1	ISO 17025	339	348	386	381
Hardness - Total							
Dissolved Oxygen	mg/l	1	NONE	8,6	10	9,2	10

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	18	< 10	< 10	< 10

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene							
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-58037
Project / Site name: The London Resort

Lab Sample Number				1777227	1777228	1777229	1777230
Sample Reference				SW012	SW013	SW014	SW016
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				19/02/2021	19/02/2021	19/02/2021	19/02/2021
Time Taken				None Supplied	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	69	140	87	82
Calcium (dissolved)	mg/l	0,012	ISO 17025	120	120	150	140
Magnesium (dissolved)	mg/l	0,005	ISO 17025	7,8	9,6	5,6	5

Phosphorus (total)	µg/l	20	ISO 17025	140	< 20	35	55
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	7,48	2,2	1,47	1,26
Barium (dissolved)	µg/l	0,06	ISO 17025	30	34	41	38
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	< 0,02	< 0,02	< 0,02
Chromium (dissolved)	µg/l	0,2	ISO 17025	2,9	3,2	3,6	3,6
Copper (dissolved)	µg/l	0,5	ISO 17025	8,1	5,3	5,0	3,8
Lead (dissolved)	µg/l	0,2	ISO 17025	0,4	0,2	< 0,2	< 0,2
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	3,3	4,1	2,7	2,6
Selenium (dissolved)	µg/l	0,6	ISO 17025	1,6	3,2	1,5	1,4
Vanadium (dissolved)	µg/l	0,2	ISO 17025	2,0	3,1	1,8	1,5
Zinc (dissolved)	µg/l	0,5	ISO 17025	11	5,8	13	8,4

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-58037
Project / Site name: The London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-58037
Project / Site name: The London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 30°C.

Sample Deviation Report



Analytical Report Number : 21-58037
Project / Site name: The London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	None Supplied	W	1777222	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	None Supplied	W	1777222	c	Dissolved Oxygen in water	L086-PL	c
SW004	None Supplied	W	1777223	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	None Supplied	W	1777223	c	Dissolved Oxygen in water	L086-PL	c
SW005	None Supplied	W	1777224	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	None Supplied	W	1777224	c	Dissolved Oxygen in water	L086-PL	c
SW007	None Supplied	W	1777225	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	None Supplied	W	1777225	c	Dissolved Oxygen in water	L086-PL	c
SW009	None Supplied	W	1777226	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	None Supplied	W	1777226	c	Dissolved Oxygen in water	L086-PL	c
SW012	None Supplied	W	1777227	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	None Supplied	W	1777227	c	Dissolved Oxygen in water	L086-PL	c
SW013	None Supplied	W	1777228	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	None Supplied	W	1777228	c	Dissolved Oxygen in water	L086-PL	c
SW014	None Supplied	W	1777229	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	None Supplied	W	1777229	c	Dissolved Oxygen in water	L086-PL	c
SW016	None Supplied	W	1777230	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	None Supplied	W	1777230	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-58921

Project / Site name:	London Resort	Samples received on:	23/02/2021
Your job number:		Samples instructed on/ Analysis started on:	25/02/2021
Your order number:		Analysis completed by:	05/03/2021
Report Issue Number:	1	Report issued on:	05/03/2021
Samples Analysed:	4 water samples		

Signed: 

Rachel Bradley
Deputy Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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



Analytical Report Number: 21-58921
Project / Site name: London Resort

Lab Sample Number	1782907	1782908	1782909	1782910
Sample Reference	WS102	WS101	BH101	BH202
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.47-5.40	2.89-5.35	4.51-39.14	3.62-30.44
Date Sampled	22/02/2021	22/02/2021	22/02/2021	22/02/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	11.9	9.2	8.2	7.9
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	7300	86000	16000	11000
Total Cyanide	µg/l	10	ISO 17025	< 10	13	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	130000	1480000	1090000	672000
Sulphate as SO4	mg/l	0.045	ISO 17025	130	14800	1090	672
Chloride	mg/l	0.15	ISO 17025	970	14000	7100	4000
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	960	300000	8500	4700
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	1000	320000	9000	5000
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.4	28	2.1	1.1
Nitrate as N	mg/l	0.01	ISO 17025	0.56	1.05	0.26	0.51
Nitrate as NO3	mg/l	0.05	ISO 17025	2.47	4.64	1.13	2.27
Nitrite as N	µg/l	1	ISO 17025	260	270	15	4.2
Nitrite as NO2	µg/l	5	ISO 17025	850	880	48	14
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1.1	28	9.3	4.1
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	3200	56000	14000	8300

Hardness - Total	mg CaCO3/l	1	ISO 17025	31.1	755	2990	1880
Dissolved Oxygen	mg/l	1	NONE	7.3	< 1.0	1.8	2.5

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	16	< 10	< 10
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Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-58921
Project / Site name: London Resort

Lab Sample Number	1782907			1782908			1782909			1782910		
Sample Reference	WS102			WS101			BH101			BH202		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	2.47-5.40			2.89-5.35			4.51-39.14			3.62-30.44		
Date Sampled	22/02/2021			22/02/2021			22/02/2021			22/02/2021		
Time Taken	None Supplied			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	20	790	1500	830
Calcium (dissolved)	mg/l	0.012	ISO 17025	12	16	260	380
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.083	170	570	220

Phosphorus (total)	µg/l	20	ISO 17025	370	31000	450	240
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	3.99	6.42	26.6	13.9
Barium (dissolved)	µg/l	0.06	ISO 17025	26	5.4	99	68
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.06	0.03	0.02	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	110	5.3	4.1	2.5
Copper (dissolved)	µg/l	0.5	ISO 17025	17	160	92	74
Lead (dissolved)	µg/l	0.2	ISO 17025	5.8	4.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.07	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	0.7	1.3	5.3	15
Selenium (dissolved)	µg/l	0.6	ISO 17025	30	280	49	30
Vanadium (dissolved)	µg/l	0.2	ISO 17025	12	93	6.1	6
Zinc (dissolved)	µg/l	0.5	ISO 17025	12	< 0.5	7.4	13

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-58921

Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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 sulphaniamide 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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-58921
Project / Site name: London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-58921
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1782909	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1782909	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1782910	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1782910	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1782908	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1782908	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1782907	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1782907	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-58923

Project / Site name:	London Resort	Samples received on:	24/02/2021
Your job number:		Samples instructed on/ Analysis started on:	24/02/2021
Your order number:		Analysis completed by:	05/03/2021
Report Issue Number:	1	Report issued on:	05/03/2021
Samples Analysed:	5 water samples		

Signed: 

Rachel Bradley
Deputy Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 21-58923
Project / Site name: London Resort

Lab Sample Number	1782914	1782915	1782916	1782917	1782918
Sample Reference	WS202	WS203	BH201	BH203	Bh204
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	7.18-10.94	1.30-4.47	3.87-6.73	3.24-12.20	3.18-11.57
Date Sampled	23/02/2021	23/02/2021	23/02/2021	23/02/2021	23/02/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	pH Units	N/A	ISO 17025	12.9	13	10.6	7.7	8.2
pH								
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	67000	48000	4400	2400	1100
Total Cyanide	µg/l	10	ISO 17025	10	16	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	11100000	5310000	680000	1420000	74100
Chloride	mg/l	0.15	ISO 17025	4100	3700	380	270	180
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	7100	21000	6300	4100	1100
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	7500	23000	6700	4300	1200
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	15	0.8	1.4	1.7	1.5
Nitrate as N	mg/l	0.01	ISO 17025	0.26	0.55	0.38	0.26	0.13
Nitrate as NO3	mg/l	0.05	ISO 17025	1.13	2.42	1.7	1.13	0.57
Nitrite as N	µg/l	1	ISO 17025	180	< 1.0	510	15	15
Nitrite as NO2	µg/l	5	ISO 17025	610	< 5.0	1700	48	50
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1	19	3.2	9.1	1.1
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	39000	22000	2900	2900	750

	mgCaCO3/l	1	ISO 17025	18.6	130	15	1920	373
Hardness - Total								
Dissolved Oxygen	mg/l	1	NONE	3.5	< 1.0	2.7	1.1	1.3

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	940	1700	< 10	< 10	< 10

Speciated PAHs

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

Total PAH

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

Analytical Report Number: 21-58923
Project / Site name: London Resort

Lab Sample Number	1782914			1782915			1782916			1782917			1782918		
Sample Reference	WS202			WS203			BH201			BH203			Bh204		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	7.18-10.94			1.30-4.47			3.87-6.73			3.24-12.20			3.18-11.57		
Date Sampled	23/02/2021			23/02/2021			23/02/2021			23/02/2021			23/02/2021		
Time Taken	None Supplied			None Supplied			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	1782914	1782915	1782916	1782917	1782918
Boron (dissolved)	µg/l	10	ISO 17025	62	68	55	690	310
Calcium (dissolved)	mg/l	0.012	ISO 17025	7.4	52	6	590	95
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.043	0.028	0.009	110	33

Phosphorus (total)	µg/l	20	ISO 17025	130	240	100	1100	1200
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	57.3	25.4	75.7	6.58	1.12
Barium (dissolved)	µg/l	0.06	ISO 17025	11	18	7.4	38	35
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.44	0.47	0.13	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	68	3.5	3.1	1.3	0.5
Copper (dissolved)	µg/l	0.5	ISO 17025	81	67	21	7.7	4.4
Lead (dissolved)	µg/l	0.2	ISO 17025	4.7	< 0.2	4	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.2	0.18	0.13	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	200	880	23	14	3.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	520	260	25	10	3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	230	150	900	1.1	1.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	22	22	2.4	8.4	5.8

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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

Analytical Report Number : 21-58923
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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 sulphaniamide 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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-58923
Project / Site name: London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-58923
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH201	None Supplied	W	1782916	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1782916	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1782917	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1782917	c	Dissolved Oxygen in water	L086-PL	c
Bh204	None Supplied	W	1782918	c	Biological oxygen demand (total) of water	L086-PL	c
Bh204	None Supplied	W	1782918	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1782914	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	None Supplied	W	1782914	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1782915	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1782915	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-59348

Project / Site name:	London Resort	Samples received on:	25/02/2021
Your job number:		Samples instructed on/ Analysis started on:	01/03/2021
Your order number:		Analysis completed by:	08/03/2021
Report Issue Number:	1	Report issued on:	08/03/2021
Samples Analysed:	4 water samples		



Signed:

Rachel Bradley
Deputy Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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



Analytical Report Number: 21-59348
Project / Site name: London Resort

Lab Sample Number	1785292			1785293			1785294			1785295		
Sample Reference	BH502			BH501			BH705			BH704		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	12.45-19.82			11.74-19.27			2.07-19.00			4.20-5.10		
Date Sampled	24/02/2021			24/02/2021			24/02/2021			24/02/2021		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									

General Inorganics

	pH Units	N/A	ISO 17025	7.5	7.5	7.5	7.2
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	3400	740	710	1300
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	620000	137000	143000	272000
Sulphate as SO4	mg/l	0.045	ISO 17025	620	137	143	272
Chloride	mg/l	0.15	ISO 17025	1100	57	69	96
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	37	54	23	41
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	39	57	25	44
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1.8	0.2	0.2	0.3
Nitrate as N	mg/l	0.01	ISO 17025	29.1	17.9	22	75.6
Nitrate as NO3	mg/l	0.05	ISO 17025	129	79.3	97.4	335
Nitrite as N	µg/l	1	ISO 17025	12	< 1.0	1.1	170
Nitrite as NO2	µg/l	5	ISO 17025	41	< 5.0	< 5.0	570
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.9	2.9	< 1.0	1.2
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	3700	640	560	1200

	mgCaCO3/l	1	ISO 17025	1050	543	545	1140
Hardness - Total							
Dissolved Oxygen	mg/l	1	NONE	5.3	5.7	9.1	4.9

Total Phenols

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

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-59348
Project / Site name: London Resort

Lab Sample Number	1785292			1785293			1785294			1785295		
Sample Reference	BH502			BH501			BH705			BH704		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	12.45-19.82			11.74-19.27			2.07-19.00			4.20-5.10		
Date Sampled	24/02/2021			24/02/2021			24/02/2021			24/02/2021		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status									

Heavy Metals / Metalloids

	Units	Limit of detection	Accreditation Status	1785292	1785293	1785294	1785295
Boron (dissolved)	µg/l	10	ISO 17025	570	110	39	63
Calcium (dissolved)	mg/l	0.012	ISO 17025	390	200	210	430
Magnesium (dissolved)	mg/l	0.005	ISO 17025	15	9.7	7.2	13

Phosphorus (total)	µg/l	20	ISO 17025	480	2700	890	9800
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	7.99	0.66	0.28	1.31
Barium (dissolved)	µg/l	0.06	ISO 17025	68	41	51	110
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	< 0.02	< 0.02	0.13
Chromium (dissolved)	µg/l	0.2	ISO 17025	56	4.1	3	6.7
Copper (dissolved)	µg/l	0.5	ISO 17025	8.3	2.6	2.6	5.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	8.7	4.1	2.5	12
Selenium (dissolved)	µg/l	0.6	ISO 17025	21	3.4	1.2	19
Vanadium (dissolved)	µg/l	0.2	ISO 17025	14	1	0.3	2.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	12	12	5.7	24

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	22.5	35.4	14.9
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	2.9	4.2	2.3
p & m-xylene	µg/l	1	ISO 17025	< 1.0	13.4	19.2	10.8
o-xylene	µg/l	1	ISO 17025	< 1.0	5.3	7	4.7
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	23	35	15
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	22	30	21
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	44	66	36

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



Analytical Report Number : 21-59348

Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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 sulphaniamide 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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-59348
Project / Site name: London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-59348
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH501	None Supplied	W	1785293	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1785293	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH501	None Supplied	W	1785293	c	Ammonium as NH4 in water	L082-PL	c
BH501	None Supplied	W	1785293	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	None Supplied	W	1785293	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1785293	c	Electrical conductivity at 20oC of water	L031-PL	c
BH501	None Supplied	W	1785293	c	pH at 20oC in water (automated)	L099-PL	c
BH502	None Supplied	W	1785292	c	Ammonia as NH3 in water	L082-PL	c
BH502	None Supplied	W	1785292	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH502	None Supplied	W	1785292	c	Ammonium as NH4 in water	L082-PL	c
BH502	None Supplied	W	1785292	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1785292	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1785292	c	Electrical conductivity at 20oC of water	L031-PL	c
BH502	None Supplied	W	1785292	c	pH at 20oC in water (automated)	L099-PL	c
BH704	None Supplied	W	1785295	c	Ammonia as NH3 in water	L082-PL	c
BH704	None Supplied	W	1785295	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH704	None Supplied	W	1785295	c	Ammonium as NH4 in water	L082-PL	c
BH704	None Supplied	W	1785295	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	None Supplied	W	1785295	c	Dissolved Oxygen in water	L086-PL	c
BH704	None Supplied	W	1785295	c	Electrical conductivity at 20oC of water	L031-PL	c
BH704	None Supplied	W	1785295	c	pH at 20oC in water (automated)	L099-PL	c
BH705	None Supplied	W	1785294	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1785294	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	None Supplied	W	1785294	c	Ammonium as NH4 in water	L082-PL	c
BH705	None Supplied	W	1785294	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	None Supplied	W	1785294	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1785294	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	None Supplied	W	1785294	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-66124

Project / Site name:	London Resort	Samples received on:	31/03/2021
Your job number:		Samples instructed on/ Analysis started on:	31/03/2021
Your order number:		Analysis completed by:	13/04/2021
Report Issue Number:	1	Report issued on:	13/04/2021
Samples Analysed:	4 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

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



Analytical Report Number: 21-66124
Project / Site name: London Resort

Lab Sample Number	1822784	1822785	1822786	1822787
Sample Reference	SW002	SW004	SW005	SW007
Sample Number	SW002	SW004	SW005	SW007
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	30/03/2021	30/03/2021	30/03/2021	30/03/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

	pH Units	N/A	ISO 17025	7,9	10,4	8,2	7,7
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1700	4600	910	2200
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Complex Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	123	870	145	467
Chloride	mg/l	0,15	ISO 17025	550	750	130	650
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	88	190	190	360
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	94	200	210	390
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1,4	2,9	1,2	2,4
Nitrate as N	mg/l	0,01	ISO 17025	0,08	0,86	4,63	0,15
Nitrate as NO3	mg/l	0,05	ISO 17025	0,36	3,79	20,5	0,67
Nitrite as N	µg/l	1	ISO 17025	6,7	470	50	4,4
Nitrite as NO2	µg/l	5	ISO 17025	22	1600	160	14
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	13	13	4,5	41
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1500	3300	830	1500

	mgCaCO3/l	1	ISO 17025	563	39,0	325	708
Hardness - Total							
Dissolved Oxygen	mg/l	1	NONE	5,9	7,7	7,1	2,4

Total Phenols

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

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene							
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-66124
Project / Site name: London Resort

Lab Sample Number	1822784			1822785			1822786			1822787		
Sample Reference	SW002			SW004			SW005			SW007		
Sample Number	SW002			SW004			SW005			SW007		
Depth (m)	None Supplied			None Supplied			None Supplied			None Supplied		
Date Sampled	30/03/2021			30/03/2021			30/03/2021			30/03/2021		
Time Taken	None Supplied			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	150	72	82	310
Calcium (dissolved)	mg/l	0,012	ISO 17025	140	8,3	110	180
Magnesium (dissolved)	mg/l	0,005	ISO 17025	49	4,4	9,3	61

Phosphorus (total)	µg/l	20	ISO 17025	160	47	220	310
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	6,65	38,0	8,08	11,3
Barium (dissolved)	µg/l	0,06	ISO 17025	60	5,9	39	59
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	0,10	< 0,02	0,04
Chromium (dissolved)	µg/l	0,2	ISO 17025	3,6	3,0	2,4	4,5
Copper (dissolved)	µg/l	0,5	ISO 17025	5,1	8,0	3,7	8,7
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2	0,2	< 0,2	< 0,2
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	0,06	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	2,4	19	5,1	7,9
Selenium (dissolved)	µg/l	0,6	ISO 17025	6,6	24	4,9	5,3
Vanadium (dissolved)	µg/l	0,2	ISO 17025	5,5	120	6,7	6,6
Zinc (dissolved)	µg/l	0,5	ISO 17025	9,5	1,4	6,5	7,2

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-66124
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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 sulphamamide 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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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



Analytical Report Number : 21-66124
Project / Site name: London Resort

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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl digestion method and colorimetric determination,	In house method based on BS 7755-3,7:1995 & ISO 11261:1995,	L087-PL	W	NONE
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 sulphamide 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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 : 21-66124
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	SW002	W	1822784	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	SW002	W	1822784	c	Dissolved Oxygen in water	L086-PL	c
SW004	SW004	W	1822785	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	SW004	W	1822785	c	Dissolved Oxygen in water	L086-PL	c
SW005	SW005	W	1822786	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	SW005	W	1822786	c	Dissolved Oxygen in water	L086-PL	c
SW007	SW007	W	1822787	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	SW007	W	1822787	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-66176

Project / Site name:	London Resort	Samples received on:	30/03/2021
Your job number:		Samples instructed on/ Analysis started on:	01/04/2021
Your order number:		Analysis completed by:	15/04/2021
Report Issue Number:	1	Report issued on:	15/04/2021
Samples Analysed:	14 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: 21-66176
Project / Site name: London Resort

Lab Sample Number				1823019	1823020	1823021	1823022	1823023
Sample Reference				WS101	WS102	BH101	WS202	WS203
Sample Number				WS101	WS102	BH101	WS202	WS203
Depth (m)				2.22-5.35	2.89-5.41	6.32-39.18	8.05-10.93	1.31-4.49
Date Sampled				29/03/2021	29/03/2021	29/03/2021	29/03/2021	29/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

	pH Units	N/A	ISO 17025	8.0	12.4	7.2	13.1	13.1
pH								
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	93000	8700	8800	82000	64000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	12
Sulphate as SO4	mg/l	0.045	ISO 17025	13400	125	1120	14600	5430
Chloride	mg/l	0.15	ISO 17025	16000	1000	7000	3700	3400
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	290000	800	8800	38000	50000
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	300000	850	9300	41000	53000
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	260	5.6	9.3	36	100
Nitrate as N	mg/l	0.01	ISO 17025	0.91	0.54	0.02	0.23	0.41
Nitrate as NO3	mg/l	0.05	ISO 17025	4.05	2.39	0.10	1.04	1.82
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	1.5	21	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	< 5.0	5.1	70	< 5.0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	4.9	< 1.0	11	< 1.0	40
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	64000	4400	5200	36000	34000

Hardness - Total	mgCaCO3/l	1	ISO 17025	1840	34.6	2740	6.6	49.3
Dissolved Oxygen	mg/l	1	NONE	1.1	6.9	1.2	2.2	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	45	< 10	< 10	1100	1800
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Speciated PAHs

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

Total PAH

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

Analytical Report Number: 21-66176

Project / Site name: London Resort

Lab Sample Number				1823019	1823020	1823021	1823022	1823023
Sample Reference				WS101	WS102	BH101	WS202	WS203
Sample Number				WS101	WS102	BH101	WS202	WS203
Depth (m)				2.22-5.35	2.89-5.41	6.32-39.18	8.05-10.93	1.31-4.49
Date Sampled				29/03/2021	29/03/2021	29/03/2021	29/03/2021	29/03/2021
Time Taken				None Supplied	None Supplied	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	660	16	1200	55	55
Calcium (dissolved)	mg/l	0.012	ISO 17025	170	14	330	2.6	20
Magnesium (dissolved)	mg/l	0.005	ISO 17025	340	0.022	470	0.039	0.022

Phosphorus (total)	µg/l	20	ISO 17025	40000	160	450	93	140
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	11.5	6.28	21.0	6.86	15.6
Barium (dissolved)	µg/l	0.06	ISO 17025	21	43	140	9.2	15
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.11	0.04	< 0.02	0.11	0.14
Chromium (dissolved)	µg/l	0.2	ISO 17025	17	96	4.2	32	2.9
Copper (dissolved)	µg/l	0.5	ISO 17025	96	15	76	4.1	10
Lead (dissolved)	µg/l	0.2	ISO 17025	4.4	6.4	< 0.2	1.5	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.06	< 0.05	< 0.05	< 0.05	0.15
Nickel (dissolved)	µg/l	0.5	ISO 17025	6.1	< 0.5	9.2	110	620
Selenium (dissolved)	µg/l	0.6	ISO 17025	390	27	9.6	480	180
Vanadium (dissolved)	µg/l	0.2	ISO 17025	17	14	2.6	120	110
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.6	7.0	7.2	1.9	6.1

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-66176
Project / Site name: London Resort

Lab Sample Number	1823024				1823025	1823026	1823027	1823028
Sample Reference	BH202				BH201	BH501	BH502	SW009
Sample Number	BH202				BH201	BH501	BH502	SW009
Depth (m)	4.53-30.44				3.95-6.72	11.85-19.22	12.59-19.80	None Supplied
Date Sampled	29/03/2021				29/03/2021	29/03/2021	29/03/2021	29/03/2021
Time Taken	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

Parameter	Units	N/A	ISO 17025	1823024	1823025	1823026	1823027	1823028
pH	pH Units			7.2	12.1	7.5	7.2	7.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	5700	5100	730	1500	4500
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	806	695	139	451	494
Chloride	mg/l	0.15	ISO 17025	4200	330	100	650	3000
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	5000	3400	63	59	470
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	5300	3600	67	63	500
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	4.3	4.0	0.3	0.6	1.3
Nitrate as N	mg/l	0.01	ISO 17025	0.43	0.35	18.7	25.9	1.73
Nitrate as NO3	mg/l	0.05	ISO 17025	1.92	1.56	83.0	115	7.68
Nitrite as N	µg/l	1	ISO 17025	< 1.0	410	< 1.0	< 1.0	50
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	1400	< 5.0	< 5.0	160
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	11	3.6	6.9	8.6	3.5
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	4400	2800	570	1000	2800

Hardness - Total	mgCaCO3/l	1	ISO 17025	2160	16.2	530	1010	1240
Dissolved Oxygen	mg/l	1	NONE	1.4	1.9	5.5	5.2	7.2

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	24	< 10	< 10	< 10
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Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-66176
Project / Site name: London Resort

Lab Sample Number	1823024				1823025		1823026		1823027		1823028	
Sample Reference	BH202				BH201		BH501		BH502		SW009	
Sample Number	BH202				BH201		BH501		BH502		SW009	
Depth (m)	4.53-30.44				3.95-6.72		11.85-19.22		12.59-19.80		None Supplied	
Date Sampled	29/03/2021				29/03/2021		29/03/2021		29/03/2021		29/03/2021	
Time Taken	None Supplied				None Supplied		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	640	53	120	400	810
Calcium (dissolved)	mg/l	0.012	ISO 17025	480	6.4	200	380	160
Magnesium (dissolved)	mg/l	0.005	ISO 17025	230	0.067	10	15	200

Phosphorus (total)	µg/l	20	ISO 17025	260	140	360	330	210
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	17.3	48.5	1.65	6.41	18.5
Barium (dissolved)	µg/l	0.06	ISO 17025	70	7.7	47	59	74
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.10	< 0.02	< 0.02	0.63
Chromium (dissolved)	µg/l	0.2	ISO 17025	4.7	8.1	9.3	28	6.1
Copper (dissolved)	µg/l	0.5	ISO 17025	34	18	6.0	6.4	31
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	1.3	< 0.2	< 0.2	1.5
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.33	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	8.8	20	5.2	8.3	9.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	20	17	7.5	20	16
Vanadium (dissolved)	µg/l	0.2	ISO 17025	11	600	2.5	7.8	9.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.2	6.3	20	11	67

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-66176
Project / Site name: London Resort

Lab Sample Number				1823029	1823030	1823031	1823032
Sample Reference				SW013	SW012	SE014	SW016
Sample Number				SW013	SW012	SE014	SW016
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/03/2021	29/03/2021	29/03/2021	29/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

Parameter	Units	Limit of detection	Accreditation Status	1823029	1823030	1823031	1823032
pH	pH Units	N/A	ISO 17025	8.1	8.0	7.8	7.7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	660	500	610	610
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	128	86.7	61.5	46.1
Chloride	mg/l	0.15	ISO 17025	72	51	49	49
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	210	220	70	< 15
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	220	230	75	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.6	0.5	0.2	0.4
Nitrate as N	mg/l	0.01	ISO 17025	5.95	6.41	13.0	14.1
Nitrate as NO3	mg/l	0.05	ISO 17025	26.4	28.4	57.6	62.3
Nitrite as N	µg/l	1	ISO 17025	18	23	23	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	58	76	74	< 5.0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.9	2.3	4.2	2.9
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	520	280	310	330

Hardness - Total	mgCaCO3/l	1	ISO 17025	357	319	360	384
Dissolved Oxygen	mg/l	1	NONE	11	8.3	7.8	9.5

Total Phenols

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

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-66176
Project / Site name: London Resort

Lab Sample Number				1823029	1823030	1823031	1823032
Sample Reference				SW013	SW012	SW014	SW016
Sample Number				SW013	SW012	SE014	SW016
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/03/2021	29/03/2021	29/03/2021	29/03/2021
Time Taken				None Supplied	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	87	63	32	34
Calcium (dissolved)	mg/l	0.012	ISO 17025	130	120	140	150
Magnesium (dissolved)	mg/l	0.005	ISO 17025	10	7.4	5.1	4.7

Phosphorus (total)	µg/l	20	ISO 17025	< 20	200	30	67
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.18	5.65	0.87	0.71
Barium (dissolved)	µg/l	0.06	ISO 17025	37	37	44	42
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.4	2.5	3.4	3.4
Copper (dissolved)	µg/l	0.5	ISO 17025	5.6	4.3	9.6	8.9
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.1	3.8	3.0	2.4
Selenium (dissolved)	µg/l	0.6	ISO 17025	4.9	2.6	2.0	1.3
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.9	1.5	0.8	0.7
Zinc (dissolved)	µg/l	0.5	ISO 17025	22	47	36	18

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-66176

Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-66176
Project / Site name: London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-66176
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	BH101	W	1823021	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	BH101	W	1823021	c	Dissolved Oxygen in water	L086-PL	c
BH201	BH201	W	1823025	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	BH201	W	1823025	c	Dissolved Oxygen in water	L086-PL	c
BH202	BH202	W	1823024	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	BH202	W	1823024	c	Dissolved Oxygen in water	L086-PL	c
BH501	BH501	W	1823026	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	BH501	W	1823026	c	Dissolved Oxygen in water	L086-PL	c
BH502	BH502	W	1823027	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	BH502	W	1823027	c	Dissolved Oxygen in water	L086-PL	c
SW009	SW009	W	1823028	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	SW009	W	1823028	c	Dissolved Oxygen in water	L086-PL	c
SW012	SW012	W	1823030	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	SW012	W	1823030	c	Dissolved Oxygen in water	L086-PL	c
SW013	SW013	W	1823029	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	SW013	W	1823029	c	Dissolved Oxygen in water	L086-PL	c
SW014	SE014	W	1823031	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	SE014	W	1823031	c	Dissolved Oxygen in water	L086-PL	c
SW016	SW016	W	1823032	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	SW016	W	1823032	c	Dissolved Oxygen in water	L086-PL	c
WS101	WS101	W	1823019	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	WS101	W	1823019	c	Dissolved Oxygen in water	L086-PL	c
WS102	WS102	W	1823020	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	WS102	W	1823020	c	Dissolved Oxygen in water	L086-PL	c
WS202	WS202	W	1823022	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	WS202	W	1823022	c	Dissolved Oxygen in water	L086-PL	c
WS203	WS203	W	1823023	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	WS203	W	1823023	c	Dissolved Oxygen in water	L086-PL	c



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Analytical Report Number : 21-66515

Project / Site name:	London Restort	Samples received on:	01/04/2021
Your job number:		Samples instructed on/ Analysis started on:	01/04/2021
Your order number:		Analysis completed by:	14/04/2021
Report Issue Number:	1	Report issued on:	14/04/2021
Samples Analysed:	4 water samples		

Signed: 

Zina Abdul Razzak
Senior Quality 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

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



Analytical Report Number: 21-66515
Project / Site name: London Restort

Lab Sample Number				1824908	1824909	1824910	1824911
Sample Reference				BH203	BH204	BH704	BH705
Sample Number				BH203	BH204	BH704	BH705
Depth (m)				3.45-12.19	3.41-11.59	4.33-5.10	2.30-19.02
Date Sampled				31/03/2021	31/03/2021	31/03/2021	31/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

	pH Units	N/A	ISO 17025	6,8	7,4	7,5	7,4
pH							
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1800	970	1100	720
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	2140000	67700	279000	159000
Sulphate as SO4	mg/l	0,045	ISO 17025	2140	67,7	279	159
Chloride	mg/l	0,15	ISO 17025	550	170	98	70
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	3800	980	< 15	30
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4000	1000	< 15	32
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	1,9	0,9	0,1	0,1
Nitrate as N	mg/l	0,01	ISO 17025	0,08	0,12	72,9	21,1
Nitrate as NO3	mg/l	0,05	ISO 17025	0,36	0,52	323	93,6
Nitrite as N	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	< 5,0	< 5,0	< 5,0	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	21	13	13	4,2
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1200	870	610	640

	mg CaCO3/l	1	ISO 17025	2400	441	1190	628
Hardness - Total							
Dissolved Oxygen	mg/l	1	NONE	1,2	1,2	2,5	7,4

Total Phenols

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

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene							
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16

Heavy Metals / Metalloids

	µg/l	10	ISO 17025	630	330	70	45
Boron (dissolved)							
Calcium (dissolved)	mg/l	0,012	ISO 17025	760	110	450	240
Magnesium (dissolved)	mg/l	0,005	ISO 17025	120	40	14	7,6
Phosphorus (total)	µg/l	20	ISO 17025	590	930	270	200



Analytical Report Number: 21-66515
Project / Site name: London Restort

Lab Sample Number				1824908	1824909	1824910	1824911
Sample Reference				BH203	BH204	BH704	BH705
Sample Number				BH203	BH204	BH704	BH705
Depth (m)				3.45-12.19	3.41-11.59	4.33-5.10	2.30-19.02
Date Sampled				31/03/2021	31/03/2021	31/03/2021	31/03/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	6.64	1.21	1.25	0.30
Barium (dissolved)	µg/l	0.06	ISO 17025	54	48	94	45
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.12	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.6	4.2	5.3	2.5
Copper (dissolved)	µg/l	0.5	ISO 17025	4.0	3.1	4.3	2.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	13	3.3	6.6	2.0
Selenium (dissolved)	µg/l	0.6	ISO 17025	6.7	1.7	18	1.2
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.7	0.6	1.6	0.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.6	4.9	20	5.6

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

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

	Units	Limit of detection	Accreditation Status				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-66515
Project / Site name: London Restort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-66515
Project / Site name: London Restort

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
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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-66515
 Project / Site name: London Restort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	BH203	W	1824908	c	Ammonia as NH3 in water	L082-PL	c
BH203	BH203	W	1824908	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	BH203	W	1824908	c	Ammonium as NH4 in water	L082-PL	c
BH203	BH203	W	1824908	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	BH203	W	1824908	c	Dissolved Oxygen in water	L086-PL	c
BH203	BH203	W	1824908	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	BH203	W	1824908	c	Nitrate as N in water	L078-PL	c
BH203	BH203	W	1824908	c	Nitrate in water	L078-PL	c
BH203	BH203	W	1824908	c	Nitrite as N in water	L082-PL	c
BH203	BH203	W	1824908	c	Nitrite in water	L082-PL	c
BH203	BH203	W	1824908	c	pH at 20oC in water (automated)	L099-PL	c
BH204	BH204	W	1824909	c	Ammonia as NH3 in water	L082-PL	c
BH204	BH204	W	1824909	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH204	BH204	W	1824909	c	Ammonium as NH4 in water	L082-PL	c
BH204	BH204	W	1824909	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	BH204	W	1824909	c	Dissolved Oxygen in water	L086-PL	c
BH204	BH204	W	1824909	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	BH204	W	1824909	c	Nitrate as N in water	L078-PL	c
BH204	BH204	W	1824909	c	Nitrate in water	L078-PL	c
BH204	BH204	W	1824909	c	Nitrite as N in water	L082-PL	c
BH204	BH204	W	1824909	c	Nitrite in water	L082-PL	c
BH204	BH204	W	1824909	c	pH at 20oC in water (automated)	L099-PL	c
BH704	BH704	W	1824910	c	Ammonia as NH3 in water	L082-PL	c
BH704	BH704	W	1824910	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH704	BH704	W	1824910	c	Ammonium as NH4 in water	L082-PL	c
BH704	BH704	W	1824910	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	BH704	W	1824910	c	Dissolved Oxygen in water	L086-PL	c
BH704	BH704	W	1824910	c	Electrical conductivity at 20oC of water	L031-PL	c
BH704	BH704	W	1824910	c	Nitrate as N in water	L078-PL	c
BH704	BH704	W	1824910	c	Nitrate in water	L078-PL	c
BH704	BH704	W	1824910	c	Nitrite as N in water	L082-PL	c
BH704	BH704	W	1824910	c	Nitrite in water	L082-PL	c
BH704	BH704	W	1824910	c	pH at 20oC in water (automated)	L099-PL	c
BH705	BH705	W	1824911	c	Ammonia as NH3 in water	L082-PL	c
BH705	BH705	W	1824911	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	BH705	W	1824911	c	Ammonium as NH4 in water	L082-PL	c
BH705	BH705	W	1824911	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	BH705	W	1824911	c	Dissolved Oxygen in water	L086-PL	c
BH705	BH705	W	1824911	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	BH705	W	1824911	c	Nitrate as N in water	L078-PL	c
BH705	BH705	W	1824911	c	Nitrate in water	L078-PL	c
BH705	BH705	W	1824911	c	Nitrite as N in water	L082-PL	c
BH705	BH705	W	1824911	c	Nitrite in water	L082-PL	c
BH705	BH705	W	1824911	c	pH at 20oC in water (automated)	L099-PL	c

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



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Analytical Report Number : 21-72246

Project / Site name:	London Resort	Samples received on:	29/04/2021
Your job number:		Samples instructed on/ Analysis started on:	04/05/2021
Your order number:		Analysis completed by:	12/05/2021
Report Issue Number:	1	Report issued on:	13/05/2021
Samples Analysed:	7 water samples		

Signed: 

Rachel Bradley
Deputy Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 21-72246
Project / Site name: London Resort

Lab Sample Number	1856377			1856378			1856379			1856380			1856381		
Sample Reference	WS101			WS102			BH101			WS202			WS203		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	3.40-5.35			3.15-5.42			6.16-39.20			8.06-10.93			1.28-4.47		
Date Sampled	27/04/2021			27/04/2021			27/04/2021			27/04/2021			27/04/2021		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status												

General Inorganics

	pH Units	N/A	ISO 17025	7.9	12.5	7.1	13.1	13.1
pH								
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	96000	10000	18000	73000	59000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	14
Sulphate as SO4	µg/l	45	ISO 17025	13300000	215000	1120000	11200000	8240000
Sulphate as SO4	mg/l	0.045	ISO 17025	13300	215	1120	112000	8240
Chloride	mg/l	0.15	ISO 17025	13000*	740	4700	2600	3000
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	280000*	970	8500	29000*	46000*
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	300000*	1000	9000	31000*	48000*
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	280	4.4	5.1	32	38
Nitrate as N	mg/l	0.01	ISO 17025	0.80	0.84	0.32	0.22	0.41
Nitrate as NO3	mg/l	0.05	ISO 17025	3.53	3.73	1.40	0.99	1.82
Nitrite as N	µg/l	1	ISO 17025	< 1.0	300	1.8	42	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	980	5.8	140	< 5.0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	5.2	1.1	11	4.2	16
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	64000	4000	13000	40000	27000

	mgCaCO3/l	1	ISO 17025	1880	34.9	3610	14.4	47.4
Hardness - Total								
Dissolved Oxygen	mg/l	1	NONE	2.5	5.2	< 1.0	3.3	< 1.0

Speciated PAHs

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

Total PAH

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

Analytical Report Number: 21-72246
Project / Site name: London Resort

Lab Sample Number	1856377			1856378			1856379			1856380			1856381		
Sample Reference	WS101			WS102			BH101			WS202			WS203		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	3.40-5.35			3.15-5.42			6.16-39.20			8.06-10.93			1.28-4.47		
Date Sampled	27/04/2021			27/04/2021			27/04/2021			27/04/2021			27/04/2021		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status												

Heavy Metals / Metalloids

	Units	Limit of detection	Accreditation Status	1856377	1856378	1856379	1856380	1856381
Boron (dissolved)	µg/l	10	ISO 17025	800	25	910	64	52
Calcium (dissolved)	mg/l	0.012	ISO 17025	190	14	380	5.6	19
Copper (dissolved) ICP-OES	µg/l	0.7	ISO 17025	21	11	5.4	13	< 0.7
Magnesium (dissolved)	mg/l	0.005	ISO 17025	340	0.11	650	0.13	0.21
Selenium (dissolved) ICP-OES	µg/l	4	ISO 17025	21	18	< 4.0	670	200

Phosphorus (total)	µg/l	20	ISO 17025	60000	250	370	150	260
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	12.6	5.83	44.0	17.3	16.7
Barium (dissolved)	µg/l	0.06	ISO 17025	29	41	120	7.0	15
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.10	0.04	< 0.02	0.12	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	15	110	7.8	17	1.7
Copper (dissolved) ICP-MS	µg/l	0.5	ISO 17025	U/S	U/S	U/S	U/S	U/S
Lead (dissolved)	µg/l	0.2	ISO 17025	2.0	7.8	< 0.2	1.4	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	8.7	0.6	6.9	110	900
Selenium (dissolved) ICP-MS	µg/l	0.6	ISO 17025	U/S	U/S	U/S	U/S	U/S
Vanadium (dissolved)	µg/l	0.2	ISO 17025	15	14	22	190	90
Zinc (dissolved)	µg/l	0.5	ISO 17025	6.1	9.9	8.9	2.2	3.9

Monoaromatics & Oxygenates

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



Analytical Report Number: 21-72246
 Project / Site name: London Resort

Lab Sample Number	1856377			1856378			1856379			1856380			1856381		
Sample Reference	WS101			WS102			BH101			WS202			WS203		
Sample Number	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Depth (m)	3.40-5.35			3.15-5.42			6.16-39.20			8.06-10.93			1.28-4.47		
Date Sampled	27/04/2021			27/04/2021			27/04/2021			27/04/2021			27/04/2021		
Time Taken	None Supplied			None Supplied			None Supplied			None Supplied			None Supplied		
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status												

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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

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



Analytical Report Number: 21-72246

Project / Site name: London Resort

Lab Sample Number				1856382	1856383
Sample Reference				BH202	BH201
Sample Number				None Supplied	None Supplied
Depth (m)				4.31-30.48	4.03-6.13
Date Sampled				27/04/2021	27/04/2021
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	7.2	12.0
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	11000	5000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	636000	636000
Sulphate as SO4	mg/l	0.045	ISO 17025	636	636
Chloride	mg/l	0.15	ISO 17025	2800	330
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	5400	3100
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	5700	3300
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	3.4	2.9
Nitrate as N	mg/l	0.01	ISO 17025	0.05	0.21
Nitrate as NO3	mg/l	0.05	ISO 17025	0.21	0.93
Nitrite as N	µg/l	1	ISO 17025	1.4	370
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	1200
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.9	3.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	8200	2400

Hardness - Total	mgCaCO3/l	1	ISO 17025	2080	18.8
Dissolved Oxygen	mg/l	1	NONE	1.4	1.8

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	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
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	< 0.16
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Analytical Report Number: 21-72246
Project / Site name: London Resort

Lab Sample Number				1856382	1856383
Sample Reference				BH202	BH201
Sample Number				None Supplied	None Supplied
Depth (m)				4.31-30.48	4.03-6.13
Date Sampled				27/04/2021	27/04/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	700	66
Calcium (dissolved)	mg/l	0.012	ISO 17025	410	7.3
Copper (dissolved) ICP-OES	µg/l	0.7	ISO 17025	6.3	25
Magnesium (dissolved)	mg/l	0.005	ISO 17025	260	0.16
Selenium (dissolved) ICP-OES	µg/l	4	ISO 17025	< 4.0	18

Phosphorus (total)	µg/l	20	ISO 17025	420	110
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	20.5	61.4
Barium (dissolved)	µg/l	0.06	ISO 17025	99	7.3
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.08
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.3	8.0
Copper (dissolved) ICP-MS	µg/l	0.5	ISO 17025	U/S	U/S
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	3.0
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.12
Nickel (dissolved)	µg/l	0.5	ISO 17025	13	18
Selenium (dissolved) ICP-MS	µg/l	0.6	ISO 17025	U/S	U/S
Vanadium (dissolved)	µg/l	0.2	ISO 17025	15	540
Zinc (dissolved)	µg/l	0.5	ISO 17025	15	4.3

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



Analytical Report Number: 21-72246
Project / Site name: London Resort

Lab Sample Number				1856382	1856383
Sample Reference				BH202	BH201
Sample Number				None Supplied	None Supplied
Depth (m)				4.31-30.48	4.03-6.13
Date Sampled				27/04/2021	27/04/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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

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

Analytical Report Number : 21-72246
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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-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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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 : 21-72246
Project / Site name: London Resort

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
Ammonium as NH ₄ 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
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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



Environmental Science

Analytical Report Number : 21-72246

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1856379	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	1856379	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	1856379	c	Ammonium as NH4 in water	L082-PL	c
BH101	None Supplied	W	1856379	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1856379	c	Dissolved Oxygen in water	L086-PL	c
BH101	None Supplied	W	1856379	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101	None Supplied	W	1856379	c	Nitrate as N in water	L078-PL	c
BH101	None Supplied	W	1856379	c	Nitrate in water	L078-PL	c
BH101	None Supplied	W	1856379	c	Nitrite as N in water	L082-PL	c
BH101	None Supplied	W	1856379	c	Nitrite in water	L082-PL	c
BH101	None Supplied	W	1856379	c	pH at 20oC in water (automated)	L099-PL	c
BH201	None Supplied	W	1856383	c	Ammonia as NH3 in water	L082-PL	c
BH201	None Supplied	W	1856383	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH201	None Supplied	W	1856383	c	Ammonium as NH4 in water	L082-PL	c
BH201	None Supplied	W	1856383	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1856383	c	Dissolved Oxygen in water	L086-PL	c
BH201	None Supplied	W	1856383	c	Electrical conductivity at 20oC of water	L031-PL	c
BH201	None Supplied	W	1856383	c	Nitrate as N in water	L078-PL	c
BH201	None Supplied	W	1856383	c	Nitrate in water	L078-PL	c
BH201	None Supplied	W	1856383	c	Nitrite as N in water	L082-PL	c
BH201	None Supplied	W	1856383	c	Nitrite in water	L082-PL	c
BH201	None Supplied	W	1856383	c	pH at 20oC in water (automated)	L099-PL	c
BH202	None Supplied	W	1856382	c	Ammonia as NH3 in water	L082-PL	c
BH202	None Supplied	W	1856382	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH202	None Supplied	W	1856382	c	Ammonium as NH4 in water	L082-PL	c
BH202	None Supplied	W	1856382	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1856382	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1856382	c	Electrical conductivity at 20oC of water	L031-PL	c
BH202	None Supplied	W	1856382	c	Nitrate as N in water	L078-PL	c
BH202	None Supplied	W	1856382	c	Nitrate in water	L078-PL	c
BH202	None Supplied	W	1856382	c	Nitrite as N in water	L082-PL	c
BH202	None Supplied	W	1856382	c	Nitrite in water	L082-PL	c
BH202	None Supplied	W	1856382	c	pH at 20oC in water (automated)	L099-PL	c
WS101	None Supplied	W	1856377	c	Ammonia as NH3 in water	L082-PL	c
WS101	None Supplied	W	1856377	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS101	None Supplied	W	1856377	c	Ammonium as NH4 in water	L082-PL	c
WS101	None Supplied	W	1856377	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1856377	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1856377	c	Electrical conductivity at 20oC of water	L031-PL	c
WS101	None Supplied	W	1856377	c	Nitrate as N in water	L078-PL	c
WS101	None Supplied	W	1856377	c	Nitrate in water	L078-PL	c
WS101	None Supplied	W	1856377	c	Nitrite as N in water	L082-PL	c
WS101	None Supplied	W	1856377	c	Nitrite in water	L082-PL	c
WS101	None Supplied	W	1856377	c	pH at 20oC in water (automated)	L099-PL	c
WS102	None Supplied	W	1856378	c	Ammonia as NH3 in water	L082-PL	c
WS102	None Supplied	W	1856378	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS102	None Supplied	W	1856378	c	Ammonium as NH4 in water	L082-PL	c
WS102	None Supplied	W	1856378	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1856378	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1856378	c	Electrical conductivity at 20oC of water	L031-PL	c
WS102	None Supplied	W	1856378	c	Nitrate as N in water	L078-PL	c
WS102	None Supplied	W	1856378	c	Nitrate in water	L078-PL	c
WS102	None Supplied	W	1856378	c	Nitrite as N in water	L082-PL	c
WS102	None Supplied	W	1856378	c	Nitrite in water	L082-PL	c
WS102	None Supplied	W	1856378	c	pH at 20oC in water (automated)	L099-PL	c
WS202	None Supplied	W	1856380	c	Ammonia as NH3 in water	L082-PL	c
WS202	None Supplied	W	1856380	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS202	None Supplied	W	1856380	c	Ammonium as NH4 in water	L082-PL	c
WS202	None Supplied	W	1856380	c	Biological oxygen demand (total) of water	L086-PL	c

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

Sample Deviation Report



Analytical Report Number : 21-72246

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1856379	c	Ammonia as NH3 in water	L082-PL	c
WS202	None Supplied	W	1856380	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1856380	c	Electrical conductivity at 20oC of water	L031-PL	c
WS202	None Supplied	W	1856380	c	Nitrate as N in water	L078-PL	c
WS202	None Supplied	W	1856380	c	Nitrate in water	L078-PL	c
WS202	None Supplied	W	1856380	c	Nitrite as N in water	L082-PL	c
WS202	None Supplied	W	1856380	c	Nitrite in water	L082-PL	c
WS202	None Supplied	W	1856380	c	pH at 20oC in water (automated)	L099-PL	c
WS203	None Supplied	W	1856381	c	Ammonia as NH3 in water	L082-PL	c
WS203	None Supplied	W	1856381	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS203	None Supplied	W	1856381	c	Ammonium as NH4 in water	L082-PL	c
WS203	None Supplied	W	1856381	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1856381	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1856381	c	Electrical conductivity at 20oC of water	L031-PL	c
WS203	None Supplied	W	1856381	c	Nitrate as N in water	L078-PL	c
WS203	None Supplied	W	1856381	c	Nitrate in water	L078-PL	c
WS203	None Supplied	W	1856381	c	Nitrite as N in water	L082-PL	c
WS203	None Supplied	W	1856381	c	Nitrite in water	L082-PL	c
WS203	None Supplied	W	1856381	c	pH at 20oC in water (automated)	L099-PL	c



Georgina Sopp

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Analytical Report Number : 21-72294

Project / Site name:	London Resort	Samples received on:	04/05/2021
Your job number:	LONDON RESRT	Samples instructed on/ Analysis started on:	04/05/2021
Your order number:		Analysis completed by:	20/05/2021
Report Issue Number:	1	Report issued on:	20/05/2021
Samples Analysed:	6 water samples		

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

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



Analytical Report Number: 21-72294
Project / Site name: London Resort

Lab Sample Number	1856576	1856577	1856578	1856579	1856580
Sample Reference	BH203	BH204	BHS01	BHS02	BH704
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.09-12.12	3.44-11.59	11.87-19.24	12.59-19.78	4.38-5.09
Date Sampled	28/04/2021	28/04/2021	28/04/2021	28/04/2021	28/04/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	pH Units	N/A	ISO 17025	6,7	7,3	7,3	7,2	6,9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	3400	1300	1100	3000	1800
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	1510	66,0	128	440	259
Chloride	mg/l	0,15	ISO 17025	270	180	85	650	110
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4000	1000	50	44	71
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4300	1100	53	47	75
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	6,0	1,5	0,2	< 0,1	< 0,1
Nitrate as N	mg/l	0,01	ISO 17025	0,16	0,16	16,9	26,0	67,7
Nitrate as NO3	mg/l	0,05	ISO 17025	0,73	0,73	75,0	115	300
Nitrite as N	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,5	1,2	< 1,0	< 1,0	< 1,0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	3000	740	670	2100	1500

	mgCaCO3/l	1	ISO 17025	2200	444	539	1070	1300
Hardness - Total	mg/l	1	ISO 17025	2200	444	539	1070	1300
Dissolved Oxygen	mg/l	1	NONE	1,0	< 1,0	4,5	4,6	4,2

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16	< 0,16
Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-72294
Project / Site name: London Resort

Lab Sample Number	1856576	1856577	1856578	1856579	1856580
Sample Reference	BH203	BH204	BHS01	BHS02	BH704
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.09-12.12	3.44-11.59	11.87-19.24	12.59-19.78	4.38-5.09
Date Sampled	28/04/2021	28/04/2021	28/04/2021	28/04/2021	28/04/2021
Time Taken	None Supplied	None Supplied	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	640	330	120	410	61
Calcium (dissolved)	mg/l	0,012	ISO 17025	680	110	200	400	500
Magnesium (dissolved)	mg/l	0,005	ISO 17025	120	41	11	16	14

Phosphorus (total)	µg/l	20	ISO 17025	1500	410	600	470	5200
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	3,27	2,00	0,92	5,00	1,64
Barium (dissolved)	µg/l	0,06	ISO 17025	77	48	43	59	100
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	< 0,02	< 0,02	< 0,02	0,13
Chromium (dissolved)	µg/l	0,2	ISO 17025	6,2	3,6	7,0	29	5,0
Copper (dissolved)	µg/l	0,5	ISO 17025	6,5	9,1	8,5	9,7	7,3
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	16	2,8	4,3	6,5	11
Selenium (dissolved)	µg/l	0,6	ISO 17025	8,7	2,3	4,4	17	11
Vanadium (dissolved)	µg/l	0,2	ISO 17025	0,9	0,6	1,3	6,7	2,0
Zinc (dissolved)	µg/l	0,5	ISO 17025	6,4	6,4	14	13	14

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

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 - C35	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	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-72294
Project / Site name: London Resort

Lab Sample Number	1856581			
Sample Reference	BH705			
Sample Number	None Supplied			
Depth (m)	2.32-19.01			
Date Sampled	28/04/2021			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH	pH Units	N/A	ISO 17025	7,2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	930
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	134
Chloride	mg/l	0,15	ISO 17025	68
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	37
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	39
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,3
Nitrate as N	mg/l	0,01	ISO 17025	19,4
Nitrate as NO3	mg/l	0,05	ISO 17025	86,1
Nitrite as N	µg/l	1	ISO 17025	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,5
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	680

Hardness - Total	mgCaCO3/l	1	ISO 17025	553
Dissolved Oxygen	mg/l	1	NONE	7,1

Speciated PAHs

Naphthalene	µg/l	0,01	ISO 17025	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 0,01
Dibenz(a,h)anthracene	µg/l	0,01	ISO 17025	< 0,01
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16
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Analytical Report Number: 21-72294
Project / Site name: London Resort

Lab Sample Number				1856581
Sample Reference				BH705
Sample Number				None Supplied
Depth (m)				2.32-19.01
Date Sampled				28/04/2021
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	42
Calcium (dissolved)	mg/l	0,012	ISO 17025	210
Magnesium (dissolved)	mg/l	0,005	ISO 17025	7,3

Phosphorus (total)	µg/l	20	ISO 17025	390
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	0,47
Barium (dissolved)	µg/l	0,06	ISO 17025	50
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02
Chromium (dissolved)	µg/l	0,2	ISO 17025	2,2
Copper (dissolved)	µg/l	0,5	ISO 17025	4,8
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	7,3
Selenium (dissolved)	µg/l	0,6	ISO 17025	1,5
Vanadium (dissolved)	µg/l	0,2	ISO 17025	0,2
Zinc (dissolved)	µg/l	0,5	ISO 17025	10

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10

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



Analytical Report Number : 21-72294
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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 : 21-72294
 Project / Site name: London Resort

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
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 sulphamide 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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 : 21-72294
 Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1856576	c	Ammonia as NH3 in water	L082-PL	c
BH203	None Supplied	W	1856576	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	None Supplied	W	1856576	c	Ammonium as NH4 in water	L082-PL	c
BH203	None Supplied	W	1856576	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1856576	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1856576	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	None Supplied	W	1856576	c	Nitrate as N in water	L078-PL	c
BH203	None Supplied	W	1856576	c	Nitrate in water	L078-PL	c
BH203	None Supplied	W	1856576	c	Nitrite as N in water	L082-PL	c
BH203	None Supplied	W	1856576	c	Nitrite in water	L082-PL	c
BH203	None Supplied	W	1856576	c	pH at 20oC in water (automated)	L099-PL	c
BH204	None Supplied	W	1856577	c	Ammonia as NH3 in water	L082-PL	c
BH204	None Supplied	W	1856577	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH204	None Supplied	W	1856577	c	Ammonium as NH4 in water	L082-PL	c
BH204	None Supplied	W	1856577	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1856577	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1856577	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	None Supplied	W	1856577	c	Nitrate as N in water	L078-PL	c
BH204	None Supplied	W	1856577	c	Nitrate in water	L078-PL	c
BH204	None Supplied	W	1856577	c	Nitrite as N in water	L082-PL	c
BH204	None Supplied	W	1856577	c	Nitrite in water	L082-PL	c
BH204	None Supplied	W	1856577	c	pH at 20oC in water (automated)	L099-PL	c
BH704	None Supplied	W	1856580	c	Ammonia as NH3 in water	L082-PL	c
BH704	None Supplied	W	1856580	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH704	None Supplied	W	1856580	c	Ammonium as NH4 in water	L082-PL	c
BH704	None Supplied	W	1856580	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	None Supplied	W	1856580	c	Dissolved Oxygen in water	L086-PL	c
BH704	None Supplied	W	1856580	c	Electrical conductivity at 20oC of water	L031-PL	c
BH704	None Supplied	W	1856580	c	Nitrate as N in water	L078-PL	c
BH704	None Supplied	W	1856580	c	Nitrate in water	L078-PL	c
BH704	None Supplied	W	1856580	c	Nitrite as N in water	L082-PL	c
BH704	None Supplied	W	1856580	c	Nitrite in water	L082-PL	c
BH704	None Supplied	W	1856580	c	pH at 20oC in water (automated)	L099-PL	c
BH705	None Supplied	W	1856581	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1856581	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	None Supplied	W	1856581	c	Ammonium as NH4 in water	L082-PL	c
BH705	None Supplied	W	1856581	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	None Supplied	W	1856581	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1856581	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	None Supplied	W	1856581	c	Nitrate as N in water	L078-PL	c
BH705	None Supplied	W	1856581	c	Nitrate in water	L078-PL	c
BH705	None Supplied	W	1856581	c	Nitrite as N in water	L082-PL	c
BH705	None Supplied	W	1856581	c	Nitrite in water	L082-PL	c
BH705	None Supplied	W	1856581	c	pH at 20oC in water (automated)	L099-PL	c
BHS01	None Supplied	W	1856578	c	Ammonia as NH3 in water	L082-PL	c
BHS01	None Supplied	W	1856578	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BHS01	None Supplied	W	1856578	c	Ammonium as NH4 in water	L082-PL	c
BHS01	None Supplied	W	1856578	c	Biological oxygen demand (total) of water	L086-PL	c
BHS01	None Supplied	W	1856578	c	Dissolved Oxygen in water	L086-PL	c
BHS01	None Supplied	W	1856578	c	Electrical conductivity at 20oC of water	L031-PL	c
BHS01	None Supplied	W	1856578	c	Nitrate as N in water	L078-PL	c
BHS01	None Supplied	W	1856578	c	Nitrate in water	L078-PL	c
BHS01	None Supplied	W	1856578	c	Nitrite as N in water	L082-PL	c
BHS01	None Supplied	W	1856578	c	Nitrite in water	L082-PL	c
BHS01	None Supplied	W	1856578	c	pH at 20oC in water (automated)	L099-PL	c
BHS02	None Supplied	W	1856579	c	Ammonia as NH3 in water	L082-PL	c
BHS02	None Supplied	W	1856579	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BHS02	None Supplied	W	1856579	c	Ammonium as NH4 in water	L082-PL	c
BHS02	None Supplied	W	1856579	c	Biological oxygen demand (total) of water	L086-PL	c

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

Sample Deviation Report



Analytical Report Number : 21-72294
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1856576	c	Ammonia as NH3 in water	L082-PL	c
BHS02	None Supplied	W	1856579	c	Dissolved Oxygen in water	L086-PL	c
BHS02	None Supplied	W	1856579	c	Electrical conductivity at 20oC of water	L031-PL	c
BHS02	None Supplied	W	1856579	c	Nitrate as N in water	L078-PL	c
BHS02	None Supplied	W	1856579	c	Nitrate in water	L078-PL	c
BHS02	None Supplied	W	1856579	c	Nitrite as N in water	L082-PL	c
BHS02	None Supplied	W	1856579	c	Nitrite in water	L082-PL	c
BHS02	None Supplied	W	1856579	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-72536

Project / Site name:	London Resort	Samples received on:	27/04/2021
Your job number:		Samples instructed on/ Analysis started on:	04/05/2021
Your order number:		Analysis completed by:	13/05/2021
Report Issue Number:	1	Report issued on:	13/05/2021
Samples Analysed:	4 soil samples - 4 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

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

Analytical Report Number: 21-72536
Project / Site name: London Resort

Lab Sample Number	1857809	1857810	1857811	1857812			
Sample Reference	SW002	SW004	SW005	SW007			
Sample Number	SW002	SW004	SW005	SW007			
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied			
Date Sampled	26/04/2021	26/04/2021	26/04/2021	26/04/2021			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0,1	NONE	< 0,1	< 0,1	< 0,1	< 0,1
Moisture Content	%	0,01	NONE	85	78	74	80
Total mass of sample received	kg	0,001	NONE	1,4	1,4	1,4	1,4

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	I/S	9,5	7,8	7,7
Total Cyanide	mg/kg	1	MCERTS	1,3	< 1,0	< 1,0	< 1,0
Organic Matter	%	0,1	MCERTS	16	11	8,0	16

Speciated PAHs

	mg/kg	0,05	MCERTS	6,3	0,62	3,5	< 0,05
Naphthalene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	0,17	< 0,05
Acenaphthylene	mg/kg	0,05	MCERTS	0,73	0,96	0,68	< 0,05
Acenaphthene	mg/kg	0,05	MCERTS	1,1	0,43	0,35	< 0,05
Fluorene	mg/kg	0,05	MCERTS	1,3	0,52	0,50	0,57
Phenanthrene	mg/kg	0,05	MCERTS	0,28	< 0,05	< 0,05	0,35
Anthracene	mg/kg	0,05	MCERTS	0,64	0,59	1,1	0,85
Fluoranthene	mg/kg	0,05	MCERTS	0,59	0,58	0,91	0,93
Pyrene	mg/kg	0,05	MCERTS	0,37	0,43	0,59	0,58
Benzo(a)anthracene	mg/kg	0,05	MCERTS	0,42	0,41	0,57	0,64
Chrysene	mg/kg	0,05	MCERTS	0,48	0,63	0,84	0,43
Benzo(b)fluoranthene	mg/kg	0,05	MCERTS	0,17	0,24	0,47	0,43
Benzo(k)fluoranthene	mg/kg	0,05	MCERTS	0,36	0,51	0,80	0,49
Benzo(a)pyrene	mg/kg	0,05	MCERTS	0,22	0,37	0,61	0,33
Indeno(1,2,3-cd)pyrene	mg/kg	0,05	MCERTS	< 0,05	< 0,05	< 0,05	< 0,05
Dibenz(a,h)anthracene	mg/kg	0,05	MCERTS	0,29	0,45	0,67	0,31
Benzo(ghi)perylene	mg/kg	0,05	MCERTS				

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0,8	MCERTS	13,2	6,74	11,7	5,91

Heavy Metals / Metalloids

	mg/kg	1	MCERTS	15	27	18	55
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	61	110	87	140
Barium (aqua regia extractable)	mg/kg	0,06	MCERTS	0,73	0,61	0,18	0,43
Beryllium (aqua regia extractable)	mg/kg	0,2	MCERTS	24	13	8,4	23
Boron (water soluble)	mg/kg	0,2	MCERTS	0,5	5,3	< 0,2	< 0,2
Cadmium (aqua regia extractable)	mg/kg	1	MCERTS	26	34	7,6	26
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	87	35	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	51	170	31	210
Lead (aqua regia extractable)	mg/kg	0,3	MCERTS	< 0,3	1,1	< 0,3	< 0,3
Mercury (aqua regia extractable)	mg/kg	1	MCERTS	19	31	20	32
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	< 1,0	7,7	< 1,0	5,2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	43	140	36	49
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	98	270	160	180
Zinc (aqua regia extractable)	mg/kg	1	MCERTS				

Analytical Report Number: 21-72536
Project / Site name: London Resort

Lab Sample Number	1857809	1857810	1857811	1857812
Sample Reference	SW002	SW004	SW005	SW007
Sample Number	SW002	SW004	SW005	SW007
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	26/04/2021	26/04/2021	26/04/2021	26/04/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Monoaromatics & Oxygenates

Parameter	Units	Limit of detection	Accreditation Status	1857809	1857810	1857811	1857812
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

Parameter	Units	Limit of detection	Accreditation Status	1857809	1857810	1857811	1857812
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0,001	MCERTS	< 0,001	< 0,001	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0,001	MCERTS	< 0,001	< 0,001	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0,001	MCERTS	< 0,001	< 0,001	< 0,001	< 0,001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	26	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	47	< 8.0	12	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	150	< 8.0	58	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	220	< 10	72	< 10

Parameter	Units	Limit of detection	Accreditation Status	1857809	1857810	1857811	1857812
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0,001	MCERTS	< 0,001	< 0,001	< 0,001	< 0,001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0,001	MCERTS	< 0,001	< 0,001	< 0,001	< 0,001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0,001	MCERTS	< 0,001	< 0,001	< 0,001	< 0,001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	46	< 1.0	7.7	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	17	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	24	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	91	46	22	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	180	50	36	12

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



Analytical Report Number: 21-72536
Project / Site name: London Resort

Lab Sample Number				1857813	1857814	1857815	1857816
Sample Reference				SW002	SW004	SW005	SW007
Sample Number				SW002	SW004	SW005	SW007
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				26/04/2021	26/04/2021	26/04/2021	26/04/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

	pH Units	N/A	ISO 17025	7,7	10,5	8,0	7,5
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	2200	3900	890	2200
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	166	727	139	389
Chloride	mg/l	0,15	ISO 17025	< 0,15	610	110	480
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	110	230	130	210
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	120	240	130	220
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,7	1,7	0,5	1,7
Nitrate as N	mg/l	0,01	ISO 17025	0,20	0,75	5,99	0,16
Nitrate as NO3	mg/l	0,05	ISO 17025	0,88	3,32	26,5	0,73
Nitrite as N	µg/l	1	ISO 17025	< 1,0	43	410	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	< 5,0	140	1300	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2,6	9,3	2,1	3,3
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1500	2500	620	1600

	mgCaCO3/l	1	ISO 17025	709	50,7	346	580
Hardness - Total							
Dissolved Oxygen	mg/l	1	NONE	6,0	8,5	7,1	4,4

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene							
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-72536
Project / Site name: London Resort

Lab Sample Number	1857813	1857814	1857815	1857816
Sample Reference	SW002	SW004	SW005	SW007
Sample Number	SW002	SW004	SW005	SW007
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	26/04/2021	26/04/2021	26/04/2021	26/04/2021
Time Taken	None Supplied	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	180	82	93	260
Calcium (dissolved)	mg/l	0,012	ISO 17025	180	11	120	150
Magnesium (dissolved)	mg/l	0,005	ISO 17025	61	5,5	11	49

Phosphorus (total)	mg/l	0,02	ISO 17025	0,12	0,042	0,23	0,16
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	5,42	32,3	6,50	7,48
Barium (dissolved)	µg/l	0,06	ISO 17025	59	5,6	30	45
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	0,07	< 0,02	< 0,02
Chromium (dissolved)	µg/l	0,2	ISO 17025	3,6	1,5	2,1	1,9
Copper (dissolved)	µg/l	0,5	ISO 17025	8,2	8,2	6,1	8,9
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2	< 0,2	< 0,2	0,4
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	2,8	15	5,0	5,8
Selenium (dissolved)	µg/l	0,6	ISO 17025	5,5	23	4,4	6,1
Vanadium (dissolved)	µg/l	0,2	ISO 17025	3,3	110	3,0	2,8
Zinc (dissolved)	µg/l	0,5	ISO 17025	14	3,0	6,2	6,6

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-72536
Project / Site name: London Resort

* These descriptions are only intended to act as a cross check if sample identities are questioned, The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1857809	SW002	SW002	None Supplied	Brown clay.
1857810	SW004	SW004	None Supplied	Brown clay.
1857811	SW005	SW005	None Supplied	Brown clay.
1857812	SW007	SW007	None Supplied	Brown clay.

Analytical Report Number : 21-72536
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Metals in water by ICP-MS (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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically, (30 oC)	In house method.	L019-UK/PL	W	NONE
Nitrite in water	Determination of nitrite in water by addition of sulphamamide 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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with Iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards,	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

Analytical Report Number : 21-72536
Project / Site name: London Resort

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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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 soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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



Analytical Report Number : 21-72536
Project / Site name: London Resort

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
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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 : 21-72536
 Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	SW002	S	1857809	c	Total cyanide in soil	L080-PL	c
SW002	SW002	W	1857813	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW002	SW002	W	1857813	c	Ammonia as NH3 in water	L082-PL	c
SW002	SW002	W	1857813	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW002	SW002	W	1857813	c	Ammonium as NH4 in water	L082-PL	c
SW002	SW002	W	1857813	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	SW002	W	1857813	c	Boron in water	L039-PL	c
SW002	SW002	W	1857813	c	Dissolved Oxygen in water	L086-PL	c
SW002	SW002	W	1857813	c	Electrical conductivity at 20oC of water	L031-PL	c
SW002	SW002	W	1857813	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW002	SW002	W	1857813	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW002	SW002	W	1857813	c	Metals in water by ICP-OES (total)	L039-PL	c
SW002	SW002	W	1857813	c	Nitrate as N in water	L078-PL	c
SW002	SW002	W	1857813	c	Nitrate in water	L078-PL	c
SW002	SW002	W	1857813	c	Nitrite as N in water	L082-PL	c
SW002	SW002	W	1857813	c	Nitrite in water	L082-PL	c
SW002	SW002	W	1857813	c	Sulphate in water	L039-PL	c
SW002	SW002	W	1857813	c	Total Hardness of water	L045-PL	c
SW002	SW002	W	1857813	c	Total cyanide in water	L080-PL	c
SW002	SW002	W	1857813	c	pH at 20oC in water (automated)	L099-PL	c
SW004	SW004	S	1857810	c	Total cyanide in soil	L080-PL	c
SW004	SW004	W	1857814	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW004	SW004	W	1857814	c	Ammonia as NH3 in water	L082-PL	c
SW004	SW004	W	1857814	c	Ammoniacal Nitrogen as N In water	L082-PL	c
SW004	SW004	W	1857814	c	Ammonium as NH4 in water	L082-PL	c
SW004	SW004	W	1857814	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	SW004	W	1857814	c	Boron in water	L039-PL	c
SW004	SW004	W	1857814	c	Dissolved Oxygen in water	L086-PL	c
SW004	SW004	W	1857814	c	Electrical conductivity at 20oC of water	L031-PL	c
SW004	SW004	W	1857814	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW004	SW004	W	1857814	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW004	SW004	W	1857814	c	Metals in water by ICP-OES (total)	L039-PL	c
SW004	SW004	W	1857814	c	Nitrate as N in water	L078-PL	c
SW004	SW004	W	1857814	c	Nitrate in water	L078-PL	c
SW004	SW004	W	1857814	c	Nitrite as N in water	L082-PL	c
SW004	SW004	W	1857814	c	Nitrite in water	L082-PL	c
SW004	SW004	W	1857814	c	Sulphate in water	L039-PL	c
SW004	SW004	W	1857814	c	Total Hardness of water	L045-PL	c
SW004	SW004	W	1857814	c	Total cyanide in water	L080-PL	c
SW004	SW004	W	1857814	c	pH at 20oC in water (automated)	L099-PL	c
SW005	SW005	S	1857811	c	Total cyanide in soil	L080-PL	c
SW005	SW005	W	1857815	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW005	SW005	W	1857815	c	Ammonia as NH3 in water	L082-PL	c
SW005	SW005	W	1857815	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW005	SW005	W	1857815	c	Ammonium as NH4 in water	L082-PL	c
SW005	SW005	W	1857815	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	SW005	W	1857815	c	Boron In water	L039-PL	c
SW005	SW005	W	1857815	c	Dissolved Oxygen in water	L086-PL	c
SW005	SW005	W	1857815	c	Electrical conductivity at 20oC of water	L031-PL	c
SW005	SW005	W	1857815	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW005	SW005	W	1857815	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW005	SW005	W	1857815	c	Metals in water by ICP-OES (total)	L039-PL	c
SW005	SW005	W	1857815	c	Nitrate as N in water	L078-PL	c
SW005	SW005	W	1857815	c	Nitrate in water	L078-PL	c
SW005	SW005	W	1857815	c	Nitrite as N in water	L082-PL	c
SW005	SW005	W	1857815	c	Nitrite in water	L082-PL	c
SW005	SW005	W	1857815	c	Sulphate in water	L039-PL	c
SW005	SW005	W	1857815	c	Total Hardness of water	L045-PL	c
SW005	SW005	W	1857815	c	Total cyanide in water	L080-PL	c

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

Sample Deviation Report



Analytical Report Number : 21-72536
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	SW002	S	1857809	c	Total cyanide in soil	L080-PL	c
SW005	SW005	W	1857815	c	pH at 20oC in water (automated)	L099-PL	c
SW007	SW007	S	1857812	c	Total cyanide in soil	L080-PL	c
SW007	SW007	W	1857816	c	BTEX and MTBE in water (Monoaromatics)	L073B-PL	c
SW007	SW007	W	1857816	c	Ammonia as NH3 in water	L082-PL	c
SW007	SW007	W	1857816	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW007	SW007	W	1857816	c	Ammonium as NH4 in water	L082-PL	c
SW007	SW007	W	1857816	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	SW007	W	1857816	c	Boron in water	L039-PL	c
SW007	SW007	W	1857816	c	Dissolved Oxygen in water	L086-PL	c
SW007	SW007	W	1857816	c	Electrical conductivity at 20oC of water	L031-PL	c
SW007	SW007	W	1857816	c	Metals in water by ICP-MS (dissolved)	L012-PL	c
SW007	SW007	W	1857816	c	Metals in water by ICP-OES (dissolved)	L039-PL	c
SW007	SW007	W	1857816	c	Metals in water by ICP-OES (total)	L039-PL	c
SW007	SW007	W	1857816	c	Nitrate as N in water	L078-PL	c
SW007	SW007	W	1857816	c	Nitrate in water	L078-PL	c
SW007	SW007	W	1857816	c	Nitrite as N in water	L082-PL	c
SW007	SW007	W	1857816	c	Nitrite in water	L082-PL	c
SW007	SW007	W	1857816	c	Sulphate in water	L039-PL	c
SW007	SW007	W	1857816	c	Total Hardness of water	L045-PL	c
SW007	SW007	W	1857816	c	Total cyanide in water	L080-PL	c
SW007	SW007	W	1857816	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-72574

Project / Site name:	London Resort	Samples received on:	30/04/2021
Your job number:		Samples instructed on/ Analysis started on:	04/05/2021
Your order number:		Analysis completed by:	13/05/2021
Report Issue Number:	1	Report issued on:	13/05/2021
Samples Analysed:	5 soil samples - 5 water samples		

Signed:

Will Fardon
Technical Reviewer (CS 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

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

Analytical Report Number: 21-72574
Project / Site name: London Resort

Lab Sample Number	1857954				1857955		1857956		1857957		1857958	
Sample Reference	SW016				SW014		SW013		SW012		SW009	
Sample Number	SW016				SW014		SW013		SW012		SW009	
Depth (m)	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Date Sampled	29/04/2021				29/04/2021		29/04/2021		29/04/2021		29/04/2021	
Time Taken	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	0.01	NONE	21	30	16	31	27				
Total mass of sample received	kg	0.001	NONE	1.4	1.2	1.4	1.2	1.2				

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	7.5	11.1	7.9	8.0
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Organic Matter	%	0.1	MCERTS	0.3	8.1	3.6	8.2	4.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	4.8
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.24	< 0.05	1.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.22	< 0.05	0.70
Phenanthrene	mg/kg	0.05	MCERTS	0.74	1.8	2.2	1.9	0.76
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.24	0.32	0.44	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.5	5.7	2.8	4.6	0.50
Pyrene	mg/kg	0.05	MCERTS	1.4	5.8	2.4	4.1	0.49
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.86	3.5	1.4	2.6	0.28
Chrysene	mg/kg	0.05	MCERTS	0.66	2.7	1.1	2.2	0.34
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.2	4.9	1.5	3.4	0.55
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.45	1.4	0.63	1.3	0.23
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.92	3.8	1.4	2.9	0.33
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.48	2.1	0.66	1.6	0.26
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.53	< 0.05	0.43	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.68	2.5	0.74	1.8	0.29

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	8.89	34.8	15.5	27.2	10.7

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.3	9.8	6.9	33	49
Barium (aqua regia extractable)	mg/kg	1	MCERTS	71	94	36	110	67
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.37	0.95	0.25	1.0	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	4.6	0.7	3.8	9.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.6	0.4	< 0.2	3.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	56	32	17	21	38
Copper (aqua regia extractable)	mg/kg	1	MCERTS	85	49	10	62	50
Lead (aqua regia extractable)	mg/kg	1	MCERTS	50	66	19	94	660
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	26	17	25	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.4	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	41	13	32	65
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	230	190	64	130	300



Environmental Science

Analytical Report Number: 21-72574
Project / Site name: London Resort

Lab Sample Number	1857954	1857955	1857956	1857957	1857958
Sample Reference	SW016	SW014	SW013	SW012	SW009
Sample Number	SW016	SW014	SW013	SW012	SW009
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	29/04/2021	29/04/2021	29/04/2021	29/04/2021	29/04/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Parameter	Units	Limit of detection	Accreditation Status	1857954	1857955	1857956	1857957	1857958
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

Parameter	Units	Limit of detection	Accreditation Status	1857954	1857955	1857956	1857957	1857958
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.8	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	37	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	16	< 8.0	< 8.0	61	14
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	200	20	< 8.0	31	110
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	210	25	< 10	130	120

Parameter	Units	Limit of detection	Accreditation Status	1857954	1857955	1857956	1857957	1857958
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	6.6
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	2.8	18	5.4
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	16	13	12	28	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	120	31	15	25	44
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	130	44	29	70	60

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

Analytical Report Number: 21-72574
Project / Site name: London Resort

Lab Sample Number	1857959				1857960				1857961				1857962				1857963			
Sample Reference	SW016				SW014				SW013				SW012				SW009			
Sample Number	SW016				SW014				SW013				SW012				SW009			
Depth (m)	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Date Sampled	29/04/2021				29/04/2021				29/04/2021				29/04/2021				29/04/2021			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status																	

General Inorganics

Parameter	Units	N/A	ISO 17025	1857959	1857960	1857961	1857962	1857963
pH	pH Units	N/A	ISO 17025	7.5	7.7	8.0	7.6	7.6
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	690	690	850	640	24000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	48600	52800	140000	86300	1470000
Sulphate as SO4	mg/l	0.045	ISO 17025	48.6	52.8	140	86.3	1470
Chloride	mg/l	0.15	ISO 17025	44	45	71	59	7200
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	< 15	73	63	270	79
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	< 15	77	67	280	84
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.1	0.6	0.2	0.5	0.5
Nitrate as N	mg/l	0.01	ISO 17025	12.6	12.1	5.12	5.73	0.95
Nitrate as NO3	mg/l	0.05	ISO 17025	55.6	53.5	22.7	25.4	4.20
Nitrite as N	µg/l	1	ISO 17025	< 1.0	33	30	90	13
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	110	98	300	41
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	< 1.0	1.0	1.3	3.7	1.3
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	490	470	580	410	16000

Parameter	Units	N/A	ISO 17025	1857959	1857960	1857961	1857962	1857963
Hardness - Total	mgCaCO3/l	1	ISO 17025	435	433	367	325	3770
Dissolved Oxygen	mg/l	1	NONE	10	10	11	8.3	8.7

Speciated PAHs

Parameter	Units	N/A	ISO 17025	1857959	1857960	1857961	1857962	1857963
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Parameter	Units	N/A	ISO 17025	1857959	1857960	1857961	1857962	1857963
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

Analytical Report Number: 21-72574
Project / Site name: London Resort

Lab Sample Number				1857959	1857960	1857961	1857962	1857963
Sample Reference				SW016	SW014	SW013	SW012	SW009
Sample Number				SW016	SW014	SW013	SW012	SW009
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				29/04/2021	29/04/2021	29/04/2021	29/04/2021	29/04/2021
Time Taken				None Supplied	None Supplied	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	36	37	99	76	1600
Calcium (dissolved)	mg/l	0.012	ISO 17025	170	160	130	120	350
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-	-	-	5.0
Magnesium (dissolved)	mg/l	0.005	ISO 17025	5.1	5.3	11	8.0	700
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-	< 4.0

Phosphorus (total)	mg/l	0.02	ISO 17025	0,056	0,035	< 0,020	0,26	0,24
Phosphorus (total)	µg/l	20	ISO 17025	56	35	< 20	260	240

Arsenic (dissolved)	µg/l	0,15	ISO 17025	< 0,15	0,15	1,12	3,66	43,7
Barium (dissolved)	µg/l	0,06	ISO 17025	40	38	35	28	86
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	< 0,02	< 0,02	< 0,02	1,1
Chromium (dissolved)	µg/l	0,2	ISO 17025	2,0	2,2	1,9	1,4	3,6
Copper (dissolved)	µg/l	0,5	ISO 17025	3,4	8,7	4,6	2,7	U/S
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2	< 0,2	0,5	< 0,2	0,7
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	2,5	2,8	4,5	2,9	8,8
Selenium (dissolved)	µg/l	0,6	ISO 17025	1,1	1,1	3,0	1,5	U/S
Vanadium (dissolved)	µg/l	0,2	ISO 17025	0,2	0,3	1,9	0,8	21
Zinc (dissolved)	µg/l	0,5	ISO 17025	11	20	8,9	7,5	50

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

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 - C35	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	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-72574
Project / Site name: London Resort

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1857954	SW016	SW016	None Supplied	Brown loam and clay with gravel and vegetation.
1857955	SW014	SW014	None Supplied	Brown clay.
1857956	SW013	SW013	None Supplied	Grey gravel.
1857957	SW012	SW012	None Supplied	Grey clay with gravel.
1857958	SW009	SW009	None Supplied	Grey clay.

Analytical Report Number : 21-72574
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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-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 soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Metals in water by ICP-MS (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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques,	In house method based on HSG 248	A001-PL	D	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Moisture Content	Moisture content, determined gravimetrically, (30 oC)	In house method.	L019-UK/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
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate,	In house method.	L009-PL	D	MCERTS
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025

Analytical Report Number : 21-72574
Project / Site name: London Resort

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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
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 soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
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
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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



Analytical Report Number : 21-72574
Project / Site name: London Resort

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
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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 : 21-72574

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW009	SW009	W	1857963	c	Ammonia as NH3 in water	L082-PL	c
SW009	SW009	W	1857963	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW009	SW009	W	1857963	c	Ammonium as NH4 in water	L082-PL	c
SW009	SW009	W	1857963	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	SW009	W	1857963	c	Dissolved Oxygen in water	L086-PL	c
SW009	SW009	W	1857963	c	Electrical conductivity at 20oC of water	L031-PL	c
SW009	SW009	W	1857963	c	Nitrate as N in water	L078-PL	c
SW009	SW009	W	1857963	c	Nitrate in water	L078-PL	c
SW009	SW009	W	1857963	c	Nitrite as N in water	L082-PL	c
SW009	SW009	W	1857963	c	Nitrite in water	L082-PL	c
SW009	SW009	W	1857963	c	pH at 20oC in water (automated)	L099-PL	c
SW012	SW012	W	1857962	c	Ammonia as NH3 in water	L082-PL	c
SW012	SW012	W	1857962	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW012	SW012	W	1857962	c	Ammonium as NH4 in water	L082-PL	c
SW012	SW012	W	1857962	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	SW012	W	1857962	c	Dissolved Oxygen in water	L086-PL	c
SW012	SW012	W	1857962	c	Electrical conductivity at 20oC of water	L031-PL	c
SW012	SW012	W	1857962	c	Nitrate as N in water	L078-PL	c
SW012	SW012	W	1857962	c	Nitrate in water	L078-PL	c
SW012	SW012	W	1857962	c	Nitrite as N in water	L082-PL	c
SW012	SW012	W	1857962	c	Nitrite in water	L082-PL	c
SW012	SW012	W	1857962	c	pH at 20oC in water (automated)	L099-PL	c
SW013	SW013	W	1857961	c	Ammonia as NH3 in water	L082-PL	c
SW013	SW013	W	1857961	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW013	SW013	W	1857961	c	Ammonium as NH4 in water	L082-PL	c
SW013	SW013	W	1857961	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	SW013	W	1857961	c	Dissolved Oxygen in water	L086-PL	c
SW013	SW013	W	1857961	c	Electrical conductivity at 20oC of water	L031-PL	c
SW013	SW013	W	1857961	c	Nitrate as N in water	L078-PL	c
SW013	SW013	W	1857961	c	Nitrate in water	L078-PL	c
SW013	SW013	W	1857961	c	Nitrite as N in water	L082-PL	c
SW013	SW013	W	1857961	c	Nitrite in water	L082-PL	c
SW013	SW013	W	1857961	c	pH at 20oC in water (automated)	L099-PL	c
SW014	SW014	W	1857960	c	Ammonia as NH3 in water	L082-PL	c
SW014	SW014	W	1857960	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW014	SW014	W	1857960	c	Ammonium as NH4 in water	L082-PL	c
SW014	SW014	W	1857960	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	SW014	W	1857960	c	Dissolved Oxygen in water	L086-PL	c
SW014	SW014	W	1857960	c	Electrical conductivity at 20oC of water	L031-PL	c
SW014	SW014	W	1857960	c	Nitrate as N in water	L078-PL	c
SW014	SW014	W	1857960	c	Nitrate in water	L078-PL	c
SW014	SW014	W	1857960	c	Nitrite as N in water	L082-PL	c
SW014	SW014	W	1857960	c	Nitrite in water	L082-PL	c
SW014	SW014	W	1857960	c	pH at 20oC in water (automated)	L099-PL	c
SW016	SW016	W	1857959	c	Ammonia as NH3 in water	L082-PL	c
SW016	SW016	W	1857959	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW016	SW016	W	1857959	c	Ammonium as NH4 in water	L082-PL	c
SW016	SW016	W	1857959	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	SW016	W	1857959	c	Dissolved Oxygen in water	L086-PL	c
SW016	SW016	W	1857959	c	Electrical conductivity at 20oC of water	L031-PL	c
SW016	SW016	W	1857959	c	Nitrate as N in water	L078-PL	c
SW016	SW016	W	1857959	c	Nitrate in water	L078-PL	c
SW016	SW016	W	1857959	c	Nitrite as N in water	L082-PL	c
SW016	SW016	W	1857959	c	Nitrite in water	L082-PL	c
SW016	SW016	W	1857959	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-74880

Replaces Analytical Report Number: 21-74880, issue no. 1
Client sampling date amended.

Project / Site name:	London Resort	Samples received on:	12/05/2021
Your job number:		Samples instructed on/ Analysis started on:	14/05/2021
Your order number:		Analysis completed by:	21/06/2021
Report Issue Number:	2	Report issued on:	21/06/2021
Samples Analysed:	7 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: 21-74880
Project / Site name: London Resort

Lab Sample Number				1870655	1870656	1870657	1870658	1870659
Sample Reference				WS101	WS102	BH101	WS202	WS203
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

Parameter	Units	N/A	ISO 17025	1870655	1870656	1870657	1870658	1870659
pH	pH Units			7.7	12.5	7.0	13.1	13.1
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	91000	10000	18000	80000	62000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	15
Sulphate as SO4	mg/l	0.045	ISO 17025	13000	210	1130	17700*	6010
Chloride	mg/l	0.15	ISO 17025	18000*	930	6600	3400	3900
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	280000*	870	7500	44000*	39000*
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	290000*	920	8000	47000*	41000*
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	190	0.9	6.2	42	62
Nitrate as N	mg/l	0.01	ISO 17025	2.23	0.78	0.09	0.33	0.52
Nitrate as NO3	mg/l	0.05	ISO 17025	9.86	3.48	0.42	1.45	2.28
Nitrite as N	µg/l	1	ISO 17025	< 1.0	320	< 1.0	230	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	1100	< 5.0	740	< 5.0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	4.4	< 1.0	1.2	< 1.0	3.7
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	65000	4800	14000	43000	27000

Hardness - Total	mgCaCO3/l	1	ISO 17025	2070	35.2	3310	18.6	89.3
Dissolved Oxygen	mg/l	1	NONE	1.4	5.4	1.4	3.8	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	1000	2000
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Speciated PAHs

Parameter	Units	N/A	ISO 17025	1870655	1870656	1870657	1870658	1870659
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-74880
Project / Site name: London Resort

Lab Sample Number				1870655	1870656	1870657	1870658	1870659
Sample Reference				WS101	WS102	BH101	WS202	WS203
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021	11/05/2021	11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied	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	850	21	1300	80	42
Calcium (dissolved)	mg/l	0.012	ISO 17025	230	14	350	7.3	36
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-	< 0.7	-	-
Magnesium (dissolved)	mg/l	0.005	ISO 17025	360	0.059	590	0.10	0.019

Phosphorus (total)	µg/l	20	ISO 17025	55000	180	370	95	140
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	4.51	5.21	39.8	12.4	10.6
Barium (dissolved)	µg/l	0.06	ISO 17025	11	46	81	5.5	13
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	0.04	< 0.02	0.11	0.32
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.9	80	5.3	21	1.5
Copper (dissolved)	µg/l	0.5	ISO 17025	20	20	U/S**	19	160
Lead (dissolved)	µg/l	0.2	ISO 17025	1.2	7.7	< 0.2	1.7	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.05	< 0.05	< 0.05	0.11
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.7	0.6	4.7	57	990
Selenium (dissolved)	µg/l	0.6	ISO 17025	22	31	34	220	180
Vanadium (dissolved)	µg/l	0.2	ISO 17025	6.1	13	16	45	140
Zinc (dissolved)	µg/l	0.5	ISO 17025	0.6	6.9	3.8	0.5	2.8

Monoaromatics & Oxygenates

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



Analytical Report Number: 21-74880
 Project / Site name: London Resort

Lab Sample Number	1870655				1870656				1870657				1870658				1870659			
Sample Reference	WS101				WS102				BH101				WS202				WS203			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Date Sampled	11/05/2021				11/05/2021				11/05/2021				11/05/2021				11/05/2021			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status																	

Petroleum Hydrocarbons

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 - C35	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	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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

*Result was reported from high dilution and should be interpreted with care

** U/S for Cu on ICP-MS due to matrix interference.



Analytical Report Number: 21-74880
Project / Site name: London Resort

Lab Sample Number				1870660	1870661
Sample Reference				BH202	BH201
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021
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	12.0
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	7900	5000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	669	640
Chloride	mg/l	0.15	ISO 17025	3400	320
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	4600	3600
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	4800	3800
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	2.3	3.2
Nitrate as N	mg/l	0.01	ISO 17025	0.37	0.52
Nitrate as NO3	mg/l	0.05	ISO 17025	1.66	2.28
Nitrite as N	µg/l	1	ISO 17025	< 1.0	250
Nitrite as NO2	µg/l	5	ISO 17025	< 5.0	810
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.2	4.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	8900	2700

Hardness - Total	mgCaCO3/l	1	ISO 17025	1970	18.5
Dissolved Oxygen	mg/l	1	NONE	1.6	1.9

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	24	35
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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	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
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	< 0.16
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Analytical Report Number: 21-74880
Project / Site name: London Resort

Lab Sample Number				1870660	1870661
Sample Reference				BH202	BH201
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	730	59
Calcium (dissolved)	mg/l	0.012	ISO 17025	370	7.3
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-
Magnesium (dissolved)	mg/l	0.005	ISO 17025	250	0.035

Phosphorus (total)	µg/l	20	ISO 17025	180	90
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	22.1	61.0
Barium (dissolved)	µg/l	0.06	ISO 17025	93	7.6
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.10
Chromium (dissolved)	µg/l	0.2	ISO 17025	6.2	7.8
Copper (dissolved)	µg/l	0.5	ISO 17025	83	50
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	2.3
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	0.08
Nickel (dissolved)	µg/l	0.5	ISO 17025	15	18
Selenium (dissolved)	µg/l	0.6	ISO 17025	32	26
Vanadium (dissolved)	µg/l	0.2	ISO 17025	17	650
Zinc (dissolved)	µg/l	0.5	ISO 17025	21	8.6

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



Analytical Report Number: 21-74880
 Project / Site name: London Resort

Lab Sample Number				1870660	1870661
Sample Reference				BH202	BH201
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				11/05/2021	11/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Petroleum Hydrocarbons

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

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10

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

*Result was reported from high dilution and should be interpreted with care

** U/S for Cu on ICP-MS due to matrix interference.



Analytical Report Number : 21-74880
Project / Site name: London Resort

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-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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 (skalär)	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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-74880
Project / Site name: London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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.

Analytical Report Number : 21-74880

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1870657	c	Ammonia as NH3 in water	L082-PL	c
BH101	None Supplied	W	1870657	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101	None Supplied	W	1870657	c	Ammonium as NH4 in water	L082-PL	c
BH101	None Supplied	W	1870657	c	Biological oxygen demand (total) of water	L086-PL	c
BH101	None Supplied	W	1870657	c	Dissolved Oxygen in water	L086-PL	c
BH101	None Supplied	W	1870657	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101	None Supplied	W	1870657	c	Nitrate as N in water	L078-PL	c
BH101	None Supplied	W	1870657	c	Nitrate in water	L078-PL	c
BH101	None Supplied	W	1870657	c	Nitrite as N in water	L082-PL	c
BH101	None Supplied	W	1870657	c	Nitrite in water	L082-PL	c
BH101	None Supplied	W	1870657	c	pH at 20oC in water (automated)	L099-PL	c
BH201	None Supplied	W	1870661	c	Ammonia as NH3 in water	L082-PL	c
BH201	None Supplied	W	1870661	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH201	None Supplied	W	1870661	c	Ammonium as NH4 in water	L082-PL	c
BH201	None Supplied	W	1870661	c	Biological oxygen demand (total) of water	L086-PL	c
BH201	None Supplied	W	1870661	c	Dissolved Oxygen in water	L086-PL	c
BH201	None Supplied	W	1870661	c	Electrical conductivity at 20oC of water	L031-PL	c
BH201	None Supplied	W	1870661	c	Nitrate as N in water	L078-PL	c
BH201	None Supplied	W	1870661	c	Nitrate in water	L078-PL	c
BH201	None Supplied	W	1870661	c	Nitrite as N in water	L082-PL	c
BH201	None Supplied	W	1870661	c	Nitrite in water	L082-PL	c
BH201	None Supplied	W	1870661	c	pH at 20oC in water (automated)	L099-PL	c
BH202	None Supplied	W	1870660	c	Ammonia as NH3 in water	L082-PL	c
BH202	None Supplied	W	1870660	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH202	None Supplied	W	1870660	c	Ammonium as NH4 in water	L082-PL	c
BH202	None Supplied	W	1870660	c	Biological oxygen demand (total) of water	L086-PL	c
BH202	None Supplied	W	1870660	c	Dissolved Oxygen in water	L086-PL	c
BH202	None Supplied	W	1870660	c	Electrical conductivity at 20oC of water	L031-PL	c
BH202	None Supplied	W	1870660	c	Nitrate as N in water	L078-PL	c
BH202	None Supplied	W	1870660	c	Nitrate in water	L078-PL	c
BH202	None Supplied	W	1870660	c	Nitrite as N in water	L082-PL	c
BH202	None Supplied	W	1870660	c	Nitrite in water	L082-PL	c
BH202	None Supplied	W	1870660	c	pH at 20oC in water (automated)	L099-PL	c
WS101	None Supplied	W	1870655	c	Ammonia as NH3 in water	L082-PL	c
WS101	None Supplied	W	1870655	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS101	None Supplied	W	1870655	c	Ammonium as NH4 in water	L082-PL	c
WS101	None Supplied	W	1870655	c	Biological oxygen demand (total) of water	L086-PL	c
WS101	None Supplied	W	1870655	c	Dissolved Oxygen in water	L086-PL	c
WS101	None Supplied	W	1870655	c	Electrical conductivity at 20oC of water	L031-PL	c
WS101	None Supplied	W	1870655	c	Nitrate as N in water	L078-PL	c
WS101	None Supplied	W	1870655	c	Nitrate in water	L078-PL	c
WS101	None Supplied	W	1870655	c	Nitrite as N in water	L082-PL	c
WS101	None Supplied	W	1870655	c	Nitrite in water	L082-PL	c
WS101	None Supplied	W	1870655	c	pH at 20oC in water (automated)	L099-PL	c
WS102	None Supplied	W	1870656	c	Ammonia as NH3 in water	L082-PL	c
WS102	None Supplied	W	1870656	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS102	None Supplied	W	1870656	c	Ammonium as NH4 in water	L082-PL	c
WS102	None Supplied	W	1870656	c	Biological oxygen demand (total) of water	L086-PL	c
WS102	None Supplied	W	1870656	c	Dissolved Oxygen in water	L086-PL	c
WS102	None Supplied	W	1870656	c	Electrical conductivity at 20oC of water	L031-PL	c
WS102	None Supplied	W	1870656	c	Nitrate as N in water	L078-PL	c
WS102	None Supplied	W	1870656	c	Nitrate in water	L078-PL	c
WS102	None Supplied	W	1870656	c	Nitrite as N in water	L082-PL	c
WS102	None Supplied	W	1870656	c	Nitrite in water	L082-PL	c
WS102	None Supplied	W	1870656	c	pH at 20oC in water (automated)	L099-PL	c
WS202	None Supplied	W	1870658	c	Ammonia as NH3 in water	L082-PL	c
WS202	None Supplied	W	1870658	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS202	None Supplied	W	1870658	c	Ammonium as NH4 in water	L082-PL	c
WS202	None Supplied	W	1870658	c	Biological oxygen demand (total) of water	L086-PL	c
WS202	None Supplied	W	1870658	c	Dissolved Oxygen in water	L086-PL	c
WS202	None Supplied	W	1870658	c	Electrical conductivity at 20oC of water	L031-PL	c
WS202	None Supplied	W	1870658	c	Nitrate as N in water	L078-PL	c

Analytical Report Number : 21-74880

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH101	None Supplied	W	1870657	c	Ammonia as NH3 in water	L082-PL	c
WS202	None Supplied	W	1870658	c	Nitrate in water	L078-PL	c
WS202	None Supplied	W	1870658	c	Nitrite as N in water	L082-PL	c
WS202	None Supplied	W	1870658	c	Nitrite in water	L082-PL	c
WS202	None Supplied	W	1870658	c	pH at 20oC in water (automated)	L099-PL	c
WS203	None Supplied	W	1870659	c	Ammonia as NH3 in water	L082-PL	c
WS203	None Supplied	W	1870659	c	Ammoniacal Nitrogen as N in water	L082-PL	c
WS203	None Supplied	W	1870659	c	Ammonium as NH4 in water	L082-PL	c
WS203	None Supplied	W	1870659	c	Biological oxygen demand (total) of water	L086-PL	c
WS203	None Supplied	W	1870659	c	Dissolved Oxygen in water	L086-PL	c
WS203	None Supplied	W	1870659	c	Electrical conductivity at 20oC of water	L031-PL	c
WS203	None Supplied	W	1870659	c	Nitrate as N in water	L078-PL	c
WS203	None Supplied	W	1870659	c	Nitrate in water	L078-PL	c
WS203	None Supplied	W	1870659	c	Nitrite as N in water	L082-PL	c
WS203	None Supplied	W	1870659	c	Nitrite in water	L082-PL	c
WS203	None Supplied	W	1870659	c	pH at 20oC in water (automated)	L099-PL	c



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Analytical Report Number : 21-74887

Project / Site name:	London Resort	Samples received on:	11/05/2021
Your job number:		Samples instructed on/ Analysis started on:	14/05/2021
Your order number:		Analysis completed by:	25/05/2021
Report Issue Number:	1	Report issued on:	25/05/2021
Samples Analysed:	4 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

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



Analytical Report Number: 21-74887
Project / Site name: London Resort

Lab Sample Number				1870684	1870685	1870686	1870687
Sample Reference				SW002	SW004	SW005	SW007
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				10/05/2021	10/05/2021	10/05/2021	10/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

	pH Units	N/A	ISO 17025	7,9	10,5	7,7	7,4
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	1900	4800	830	910
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	157000	1060000	128000	116000
Chloride	mg/l	0,15	ISO 17025	640	770	110	140
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	79	340	270	190
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	84	360	280	200
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	2,3	2,7	1,1	1,5
Nitrate as N	mg/l	0,01	ISO 17025	0,19	0,30	5,70	0,16
Nitrate as NO3	mg/l	0,05	ISO 17025	0,83	1,35	25,3	0,73
Nitrite as N	µg/l	1	ISO 17025	< 1,0	390	87	15
Nitrite as NO2	µg/l	5	ISO 17025	< 5,0	1300	290	48
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,3	13	1,4	2,4
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	1700	3400	620	620

	mgCaCO3/l	1	ISO 17025	695	40,5	371	382
Hardness - Total							
Dissolved Oxygen	mg/l	1	NONE	7,3	3,6	5,6	2,0

Total Phenols

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

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene							
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-74887
Project / Site name: London Resort

Lab Sample Number				1870684	1870685	1870686	1870687
Sample Reference				SW002	SW004	SW005	SW007
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				10/05/2021	10/05/2021	10/05/2021	10/05/2021
Time Taken				None Supplied	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	190	91	96	120
Calcium (dissolved)	mg/l	0,012	ISO 17025	180	9,8	130	130
Magnesium (dissolved)	mg/l	0,005	ISO 17025	62	3,9	11	14

Phosphorus (total)	µg/l	20	ISO 17025	130	43	240	120
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	6,50	41,5	6,83	6,66
Barium (dissolved)	µg/l	0,06	ISO 17025	59	5,7	30	30
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	0,11	< 0,02	< 0,02
Chromium (dissolved)	µg/l	0,2	ISO 17025	4,0	3,0	2,6	3,1
Copper (dissolved)	µg/l	0,5	ISO 17025	16	13	6,3	9,6
Lead (dissolved)	µg/l	0,2	ISO 17025	< 0,2	0,4	0,2	< 0,2
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	2,4	19	4,6	3,2
Selenium (dissolved)	µg/l	0,6	ISO 17025	6,1	32	3,2	2,6
Vanadium (dissolved)	µg/l	0,2	ISO 17025	4,5	140	3,3	1,9
Zinc (dissolved)	µg/l	0,5	ISO 17025	6,9	4,1	18	5,8

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 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
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

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



Analytical Report Number : 21-74887
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-74887
Project / Site name: London Resort

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
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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-74887
Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW002	None Supplied	W	1870684	c	Ammonia as NH3 in water	L082-PL	c
SW002	None Supplied	W	1870684	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW002	None Supplied	W	1870684	c	Ammonium as NH4 in water	L082-PL	c
SW002	None Supplied	W	1870684	c	Biological oxygen demand (total) of water	L086-PL	c
SW002	None Supplied	W	1870684	c	Dissolved Oxygen in water	L086-PL	c
SW002	None Supplied	W	1870684	c	Electrical conductivity at 20oC of water	L031-PL	c
SW002	None Supplied	W	1870684	c	Nitrate as N in water	L078-PL	c
SW002	None Supplied	W	1870684	c	Nitrate in water	L078-PL	c
SW002	None Supplied	W	1870684	c	Nitrite as N in water	L082-PL	c
SW002	None Supplied	W	1870684	c	Nitrite in water	L082-PL	c
SW002	None Supplied	W	1870684	c	pH at 20oC in water (automated)	L099-PL	c
SW004	None Supplied	W	1870685	c	Ammonia as NH3 in water	L082-PL	c
SW004	None Supplied	W	1870685	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW004	None Supplied	W	1870685	c	Ammonium as NH4 in water	L082-PL	c
SW004	None Supplied	W	1870685	c	Biological oxygen demand (total) of water	L086-PL	c
SW004	None Supplied	W	1870685	c	Dissolved Oxygen in water	L086-PL	c
SW004	None Supplied	W	1870685	c	Electrical conductivity at 20oC of water	L031-PL	c
SW004	None Supplied	W	1870685	c	Nitrate as N in water	L078-PL	c
SW004	None Supplied	W	1870685	c	Nitrate in water	L078-PL	c
SW004	None Supplied	W	1870685	c	Nitrite as N in water	L082-PL	c
SW004	None Supplied	W	1870685	c	Nitrite in water	L082-PL	c
SW004	None Supplied	W	1870685	c	pH at 20oC in water (automated)	L099-PL	c
SW005	None Supplied	W	1870686	c	Ammonia as NH3 in water	L082-PL	c
SW005	None Supplied	W	1870686	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW005	None Supplied	W	1870686	c	Ammonium as NH4 in water	L082-PL	c
SW005	None Supplied	W	1870686	c	Biological oxygen demand (total) of water	L086-PL	c
SW005	None Supplied	W	1870686	c	Dissolved Oxygen in water	L086-PL	c
SW005	None Supplied	W	1870686	c	Electrical conductivity at 20oC of water	L031-PL	c
SW005	None Supplied	W	1870686	c	Nitrate as N in water	L078-PL	c
SW005	None Supplied	W	1870686	c	Nitrate in water	L078-PL	c
SW005	None Supplied	W	1870686	c	Nitrite as N in water	L082-PL	c
SW005	None Supplied	W	1870686	c	Nitrite in water	L082-PL	c
SW005	None Supplied	W	1870686	c	pH at 20oC in water (automated)	L099-PL	c
SW007	None Supplied	W	1870687	c	Ammonia as NH3 in water	L082-PL	c
SW007	None Supplied	W	1870687	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW007	None Supplied	W	1870687	c	Ammonium as NH4 in water	L082-PL	c
SW007	None Supplied	W	1870687	c	Biological oxygen demand (total) of water	L086-PL	c
SW007	None Supplied	W	1870687	c	Dissolved Oxygen in water	L086-PL	c
SW007	None Supplied	W	1870687	c	Electrical conductivity at 20oC of water	L031-PL	c
SW007	None Supplied	W	1870687	c	Nitrate as N in water	L078-PL	c
SW007	None Supplied	W	1870687	c	Nitrate in water	L078-PL	c
SW007	None Supplied	W	1870687	c	Nitrite as N in water	L082-PL	c
SW007	None Supplied	W	1870687	c	Nitrite in water	L082-PL	c
SW007	None Supplied	W	1870687	c	pH at 20oC in water (automated)	L099-PL	c

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



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Analytical Report Number : 21-74933

Project / Site name:	London Resort	Samples received on:	13/05/2021
Your job number:		Samples instructed on/ Analysis started on:	14/05/2021
Your order number:		Analysis completed by:	25/05/2021
Report Issue Number:	1	Report issued on:	25/05/2021
Samples Analysed:	8 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

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



Analytical Report Number: 21-74933
Project / Site name: London Resort

Lab Sample Number	1870835	1870836	1870837	1870838	1870839
Sample Reference	SW013	SW012	BH705	BH704	BH501
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	2.38-19.00	3.40-5.09	0.90-19.17
Date Sampled	12/05/2021	12/05/2021	12/05/2021	12/05/2021	12/05/2021
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

	pH Units	N/A	ISO 17025	8,1	7,7	7,2	6,9	7,1
pH								
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	790	660	820	1500	930
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	141	101	149	265	150
Chloride	mg/l	0,15	ISO 17025	65	57	60	110	75
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	110	120	< 15	31	82
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	110	130	16	33	87
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,7	0,8	0,4	0,6	0,7
Nitrate as N	mg/l	0,01	ISO 17025	4,77	4,99	19,2	58,3	17,3
Nitrate as NO3	mg/l	0,05	ISO 17025	21,1	22,1	85,1	258	76,5
Nitrite as N	µg/l	1	ISO 17025	35	48	< 1,0	50	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	120	160	< 5,0	160	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,1	1,6	< 1,0	< 1,0	1,1
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	580	460	710	1500	730

	mgCaCO3/l	1	ISO 17025	381	340	599	1330	566
Hardness - Total								
Dissolved Oxygen	mg/l	1	NONE	10	7,6	8,7	3,3	6,2

Total Phenols

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

Speciated PAHs

	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Naphthalene								
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 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
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16	< 0,16	< 0,16



Analytical Report Number: 21-74933
Project / Site name: London Resort

Lab Sample Number	1870835	1870836	1870837	1870838	1870839
Sample Reference	SW013	SW012	BH705	BH704	BH501
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	2.38-19.00	3.40-5.09	0.90-19.17
Date Sampled	12/05/2021	12/05/2021	12/05/2021	12/05/2021	12/05/2021
Time Taken	None Supplied	None Supplied	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	100	81	41	58	130
Calcium (dissolved)	mg/l	0,012	ISO 17025	130	120	230	510	210
Magnesium (dissolved)	mg/l	0,005	ISO 17025	11	7,8	7,7	14	11

Phosphorus (total)	µg/l	20	ISO 17025	21	260	210	3400	400
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	1,78	7,22	0,84	1,94	1,35
Barium (dissolved)	µg/l	0,06	ISO 17025	37	30	52	110	44
Beryllium (dissolved)	µg/l	0,1	ISO 17025	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Cadmium (dissolved)	µg/l	0,02	ISO 17025	< 0,02	< 0,02	< 0,02	0,15	< 0,02
Chromium (dissolved)	µg/l	0,2	ISO 17025	3,0	2,2	3,3	6,5	6,5
Copper (dissolved)	µg/l	0,5	ISO 17025	5,8	6,6	4,2	6,9	4,9
Lead (dissolved)	µg/l	0,2	ISO 17025	0,4	< 0,2	< 0,2	< 0,2	< 0,2
Mercury (dissolved)	µg/l	0,05	ISO 17025	< 0,05	< 0,05	< 0,05	< 0,05	< 0,05
Nickel (dissolved)	µg/l	0,5	ISO 17025	4,2	2,9	2,9	11	4,0
Selenium (dissolved)	µg/l	0,6	ISO 17025	3,9	2,1	1,7	7,9	4,7
Vanadium (dissolved)	µg/l	0,2	ISO 17025	2,7	1,7	0,9	2,6	2,0
Zinc (dissolved)	µg/l	0,5	ISO 17025	9,6	6,1	5,4	12	17

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Toluene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Ethylbenzene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
p & m-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
o-xylene	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0

Petroleum Hydrocarbons

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 - C35	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	< 1,0	< 1,0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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



Analytical Report Number: 21-74933
Project / Site name: London Resort

Lab Sample Number	1870840	1870841	1870842
Sample Reference	BH502	BH203	BH204
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	12.63-19.74	3.62-12.19	3.45-11.60
Date Sampled	12/05/2021	12/05/2021	12/05/2021
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	7,0	6,7	7,2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	2600	2600	1100
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	mg/l	0,045	ISO 17025	484	1580	75,8
Chloride	mg/l	0,15	ISO 17025	620	240	170
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	59	3700	990
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	63	4000	1000
Total Nitrogen (Kjeldahl)	mg/l	0,1	NONE	0,4	2,7	0,9
Nitrate as N	mg/l	0,01	ISO 17025	28,2	0,41	0,04
Nitrate as NO3	mg/l	0,05	ISO 17025	125	1,82	0,16
Nitrite as N	µg/l	1	ISO 17025	2,2	< 1,0	< 1,0
Nitrite as NO2	µg/l	5	ISO 17025	7,3	< 5,0	< 5,0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	1,4	6,2	3,2
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	2100	3000	770

Hardness - Total	mgCaCO3/l	1	ISO 17025	1110	2180	367
Dissolved Oxygen	mg/l	1	NONE	5,4	< 1,0	1,8

Total Phenols

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

Naphthalene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Acenaphthylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Acenaphthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Fluorene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Phenanthrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(a)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Chrysene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(b)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(k)fluoranthene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(a)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Indeno(1,2,3-cd)pyrene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Dibenz(a,h)anthracene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01
Benzo(ghi)perylene	µg/l	0,01	ISO 17025	< 0,01	< 0,01	< 0,01

Total PAH

Total EPA-16 PAHs	µg/l	0,16	ISO 17025	< 0,16	< 0,16	< 0,16
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Analytical Report Number: 21-74933
Project / Site name: London Resort

Lab Sample Number				1870840	1870841	1870842
Sample Reference				BH502	BH203	BH204
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				12.63-19.74	3.62-12.19	3.45-11.60
Date Sampled				12/05/2021	12/05/2021	12/05/2021
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	440	640	330
Calcium (dissolved)	mg/l	0,012	ISO 17025	410	670	89
Magnesium (dissolved)	mg/l	0,005	ISO 17025	17	120	35

Phosphorus (total)	µg/l	20	ISO 17025	320	820	680
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Arsenic (dissolved)	µg/l	0,15	ISO 17025	5,80	20,8	2,00
Barium (dissolved)	µg/l	0,06	ISO 17025	58	75	52
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	28	7,9	3,9
Copper (dissolved)	µg/l	0,5	ISO 17025	8,3	14	5,4
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	6,7	16	2,6
Selenium (dissolved)	µg/l	0,6	ISO 17025	18	8,2	2,4
Vanadium (dissolved)	µg/l	0,2	ISO 17025	7,1	1,5	1,2
Zinc (dissolved)	µg/l	0,5	ISO 17025	13	4,8	3,1

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	< 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	< 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	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

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



Analytical Report Number : 21-74933
Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-74933
 Project / Site name: London Resort

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
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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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 : 21-74933
 Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH203	None Supplied	W	1870841	c	Ammonia as NH3 in water	L082-PL	c
BH203	None Supplied	W	1870841	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH203	None Supplied	W	1870841	c	Ammonium as NH4 in water	L082-PL	c
BH203	None Supplied	W	1870841	c	Biological oxygen demand (total) of water	L086-PL	c
BH203	None Supplied	W	1870841	c	Dissolved Oxygen in water	L086-PL	c
BH203	None Supplied	W	1870841	c	Electrical conductivity at 20oC of water	L031-PL	c
BH203	None Supplied	W	1870841	c	pH at 20oC in water (automated)	L099-PL	c
BH204	None Supplied	W	1870842	c	Ammonia as NH3 in water	L082-PL	c
BH204	None Supplied	W	1870842	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH204	None Supplied	W	1870842	c	Ammonium as NH4 in water	L082-PL	c
BH204	None Supplied	W	1870842	c	Biological oxygen demand (total) of water	L086-PL	c
BH204	None Supplied	W	1870842	c	Dissolved Oxygen in water	L086-PL	c
BH204	None Supplied	W	1870842	c	Electrical conductivity at 20oC of water	L031-PL	c
BH204	None Supplied	W	1870842	c	pH at 20oC in water (automated)	L099-PL	c
BH501	None Supplied	W	1870839	c	Ammonia as NH3 in water	L082-PL	c
BH501	None Supplied	W	1870839	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH501	None Supplied	W	1870839	c	Ammonium as NH4 in water	L082-PL	c
BH501	None Supplied	W	1870839	c	Biological oxygen demand (total) of water	L086-PL	c
BH501	None Supplied	W	1870839	c	Dissolved Oxygen in water	L086-PL	c
BH501	None Supplied	W	1870839	c	Electrical conductivity at 20oC of water	L031-PL	c
BH501	None Supplied	W	1870839	c	pH at 20oC in water (automated)	L099-PL	c
BH502	None Supplied	W	1870840	c	Ammonia as NH3 in water	L082-PL	c
BH502	None Supplied	W	1870840	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH502	None Supplied	W	1870840	c	Ammonium as NH4 in water	L082-PL	c
BH502	None Supplied	W	1870840	c	Biological oxygen demand (total) of water	L086-PL	c
BH502	None Supplied	W	1870840	c	Dissolved Oxygen in water	L086-PL	c
BH502	None Supplied	W	1870840	c	Electrical conductivity at 20oC of water	L031-PL	c
BH502	None Supplied	W	1870840	c	pH at 20oC in water (automated)	L099-PL	c
BH704	None Supplied	W	1870838	c	Ammonia as NH3 in water	L082-PL	c
BH704	None Supplied	W	1870838	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH704	None Supplied	W	1870838	c	Ammonium as NH4 in water	L082-PL	c
BH704	None Supplied	W	1870838	c	Biological oxygen demand (total) of water	L086-PL	c
BH704	None Supplied	W	1870838	c	Dissolved Oxygen in water	L086-PL	c
BH704	None Supplied	W	1870838	c	Electrical conductivity at 20oC of water	L031-PL	c
BH704	None Supplied	W	1870838	c	pH at 20oC in water (automated)	L099-PL	c
BH705	None Supplied	W	1870837	c	Ammonia as NH3 in water	L082-PL	c
BH705	None Supplied	W	1870837	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH705	None Supplied	W	1870837	c	Ammonium as NH4 in water	L082-PL	c
BH705	None Supplied	W	1870837	c	Biological oxygen demand (total) of water	L086-PL	c
BH705	None Supplied	W	1870837	c	Dissolved Oxygen in water	L086-PL	c
BH705	None Supplied	W	1870837	c	Electrical conductivity at 20oC of water	L031-PL	c
BH705	None Supplied	W	1870837	c	pH at 20oC in water (automated)	L099-PL	c
SW012	None Supplied	W	1870836	c	Ammonia as NH3 in water	L082-PL	c
SW012	None Supplied	W	1870836	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW012	None Supplied	W	1870836	c	Ammonium as NH4 in water	L082-PL	c
SW012	None Supplied	W	1870836	c	Biological oxygen demand (total) of water	L086-PL	c
SW012	None Supplied	W	1870836	c	Dissolved Oxygen in water	L086-PL	c
SW012	None Supplied	W	1870836	c	Electrical conductivity at 20oC of water	L031-PL	c
SW012	None Supplied	W	1870836	c	pH at 20oC in water (automated)	L099-PL	c
SW013	None Supplied	W	1870835	c	Ammonia as NH3 in water	L082-PL	c
SW013	None Supplied	W	1870835	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW013	None Supplied	W	1870835	c	Ammonium as NH4 in water	L082-PL	c
SW013	None Supplied	W	1870835	c	Biological oxygen demand (total) of water	L086-PL	c
SW013	None Supplied	W	1870835	c	Dissolved Oxygen in water	L086-PL	c
SW013	None Supplied	W	1870835	c	Electrical conductivity at 20oC of water	L031-PL	c
SW013	None Supplied	W	1870835	c	pH at 20oC in water (automated)	L099-PL	c

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



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Analytical Report Number : 21-75249

Replaces Analytical Report Number: 21-75249, issue no. 1
Client sampling date amended.

Project / Site name:	London Resort	Samples received on:	14/05/2021
Your job number:		Samples instructed on/ Analysis started on:	17/05/2021
Your order number:		Analysis completed by:	17/06/2021
Report Issue Number:	2	Report issued on:	17/06/2021
Samples Analysed:	3 water samples		

Signed: [Redacted]

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: 21-75249
Project / Site name: London Resort

Lab Sample Number	1872642			1872643	1872644
Sample Reference	SW009			SW014	SW016
Sample Number	None Supplied			None Supplied	None Supplied
Depth (m)	None Supplied			None Supplied	None Supplied
Date Sampled	13/05/2021			13/05/2021	13/05/2021
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	1872642	1872643	1872644
pH	pH Units	N/A	ISO 17025	8.2	7.7	7.6
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	10000	700	680
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	772	50.7	45.5
Chloride	mg/l	0.15	ISO 17025	4800*	46	43
Ammoniacal Nitrogen as NH3	µg/l	15	ISO 17025	240	78	18
Ammoniacal Nitrogen as NH4	µg/l	15	ISO 17025	260	83	19
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	2.3	0.3	0.5
Nitrate as N	mg/l	0.01	ISO 17025	0.28	11.4	11.2
Nitrate as NO3	mg/l	0.05	ISO 17025	1.25	50.4	49.5
Nitrite as N	µg/l	1	ISO 17025	4.9	37	< 1.0
Nitrite as NO2	µg/l	5	ISO 17025	16	120	< 5.0
BOD (Biochemical Oxygen Demand) (Total) - PL	mg/l	1	ISO 17025	2.4	1.4	< 1.0
Total Dissolved Solids (Gravimetric)	mg/l	4	ISO 17025	9100	380	320

Hardness - Total	mgCaCO3/l	1	ISO 17025	1950	379	385
Dissolved Oxygen	mg/l	1	NONE	6.5	7.0	9.7

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	57	< 10	< 10
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Speciated PAHs

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

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16
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Analytical Report Number: 21-75249
 Project / Site name: London Resort

Lab Sample Number				1872642	1872643	1872644
Sample Reference				SW009	SW014	SW016
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				13/05/2021	13/05/2021	13/05/2021
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	1300	37	44
Calcium (dissolved)	mg/l	0.012	ISO 17025	220	140	150
Magnesium (dissolved)	mg/l	0.005	ISO 17025	340	5.2	5.0

Phosphorus (total)	µg/l	20	ISO 17025	59	22	540
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Arsenic (dissolved)	µg/l	0.15	ISO 17025	49.0	1.92	0.90
Barium (dissolved)	µg/l	0.06	ISO 17025	110	37	41
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.06	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	5.1	2.2	1.9
Copper (dissolved)	µg/l	0.5	ISO 17025	44	5.6	2.7
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	13	2.6	2.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	37	1.3	1.2
Vanadium (dissolved)	µg/l	0.2	ISO 17025	30	1.5	0.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.1	17	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



Analytical Report Number: 21-75249
 Project / Site name: London Resort

Lab Sample Number	1872642	1872643	1872644
Sample Reference	SW009	SW014	SW016
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	13/05/2021	13/05/2021	13/05/2021
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status

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	< 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	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10

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

* Result was reported from high dilution and should be interpreted with care



Analytical Report Number : 21-75249

Project / Site name: London Resort

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 (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, 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
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
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
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
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
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
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
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
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
Kjeldahl nitrogen in water	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3,7:1995 & ISO 11261:1995.	L087-PL	W	NONE
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



Analytical Report Number : 21-75249
Project / Site name: London Resort

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
Ammonia as NH ₃ 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 NH ₄ 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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method,	L099-PL	W	ISO 17025
Total dissolved solids in water (Gravimetric)	Determination of total dissolved solids in water by gravimetry.	In house method based on BSEN 15216:2007	L004-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 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.

Analytical Report Number : 21-75249

Project / Site name: London Resort

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
SW009	None Supplied	W	1872642	c	Ammonia as NH3 in water	L082-PL	c
SW009	None Supplied	W	1872642	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW009	None Supplied	W	1872642	c	Ammonium as NH4 in water	L082-PL	c
SW009	None Supplied	W	1872642	c	Biological oxygen demand (total) of water	L086-PL	c
SW009	None Supplied	W	1872642	c	Dissolved Oxygen in water	L086-PL	c
SW009	None Supplied	W	1872642	c	Electrical conductivity at 20oC of water	L031-PL	c
SW009	None Supplied	W	1872642	c	pH at 20oC in water (automated)	L099-PL	c
SW014	None Supplied	W	1872643	c	Ammonia as NH3 in water	L082-PL	c
SW014	None Supplied	W	1872643	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW014	None Supplied	W	1872643	c	Ammonium as NH4 in water	L082-PL	c
SW014	None Supplied	W	1872643	c	Biological oxygen demand (total) of water	L086-PL	c
SW014	None Supplied	W	1872643	c	Dissolved Oxygen in water	L086-PL	c
SW014	None Supplied	W	1872643	c	Electrical conductivity at 20oC of water	L031-PL	c
SW014	None Supplied	W	1872643	c	pH at 20oC in water (automated)	L099-PL	c
SW016	None Supplied	W	1872644	c	Ammonia as NH3 in water	L082-PL	c
SW016	None Supplied	W	1872644	c	Ammoniacal Nitrogen as N in water	L082-PL	c
SW016	None Supplied	W	1872644	c	Ammonium as NH4 in water	L082-PL	c
SW016	None Supplied	W	1872644	c	Biological oxygen demand (total) of water	L086-PL	c
SW016	None Supplied	W	1872644	c	Dissolved Oxygen in water	L086-PL	c
SW016	None Supplied	W	1872644	c	Electrical conductivity at 20oC of water	L031-PL	c
SW016	None Supplied	W	1872644	c	pH at 20oC in water (automated)	L099-PL	c

Appendix C Assessment spreadsheets – groundwater

Calculated pH	10.2
Calculated hardness	815.4666667

Project	London Resort - Initial 2020 groundwater
Project Number	0042936
Date	07/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)			500
Nitrate (NO3-)			50000
Nitrite (NO2-)			500
Cyanide	1	5	50
Mercury		0.07	
Arsenic	50		1
Barium			
Beryllium			
Boron			1000
Cadmium	0.08	0.45	
Chromium	4.7		5
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene		0.017	
Benzo(k)fluoranthene		0.017	
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene		0.0082	
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics > C5-C6			
Aliphatics > C6-C8			
Aliphatics > C8-C10			
Aliphatics > C10-C12			
Aliphatics > C12-C16			
Aliphatics > C16-C21			
Aliphatics > C21-C35			
Total Aliphatics > C12-C35			
Aromatics > EC5-EC7			
Aromatics > EC7-EC8			
Aromatics > EC8-EC10			
Aromatics > EC10-EC12	0.4	1.4	
Aromatics > EC12-EC16			
Aromatics > EC16-EC21			
Aromatics > EC21-EC35			
Total Aromatics > EC12-EC35			
Total Aliphatics & Aromatics > C5			10
Phenols	7.7	46	

Certificate ref.	Round 1	Round 1	Round 2	Round 2	Round 3	Round 3	20-46997-1	20-46997-1	21-53427-1	21-53427-1	21-58921-1	21-58921-1	21-66176-1	21-66176-1		
Sampling Round	Round 1	Round 1	Round 2	Round 2	Round 3	Round 3	Round 4	Round 4	Round 5	Round 5	Round 6	Round 6	Round 7	Round 7		
Date	30/09/2020	30/09/2020	21/10/2020	21/10/2020	16/11/2020	16/11/2020	09/12/2020	09/12/2020	26/01/2021	26/01/2021	22/02/2021	22/02/2021	29/03/2021	29/03/2021		
Aquifer	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched		
Sample ID	WS102	WS101	WS102	WS101	WS101	WS102	WS101	WS102	WS101	WS102	WS102	WS101	WS101	WS102		
Depth	4.65-5.42	4.48-6.26	4.25-5.41	4.29-5.35	4.20-6.34	4.17-6.42	3.95-5.35	4.08-5.42	3.06-6.35	3.10-6.31	2.47-5.40	2.89-6.35	2.22-6.35	2.89-5.41		
Determinand	Units															
pH	pH units	12.7	7.8	12.6	8.1	6.7	12.8	8.8	12.7	8.9	12.6	11.9	9.2	8	12.4	
Conductivity	ms/cm	21	9.7	18	82	110	13	5.3	5.7	92	11	7.3	86	93	8.7	
Dissolved Oxygen	mg/l	3.6 < 1.0		5.5 < 1.0		1.3	6.6	1.7	5.8 < 1.0	4.8	7.3 < 1.0		1.1	6.9		
BOD	mg/l	< 1.0	3.2	6.8	15	2.9 < 1.0	3.6 < 1.0		11 < 1.0	1.1	28	4.9 < 1.0				
Total Dissolved Solids	ug/l	9.1	34	7.8 U/S		65	7.7	22	5.1	62	4.8	3.2	56	64	4.4	
Hardness	mg/l	10.8	2070	20	1370	1400	22	1180	28.5	1090	24.3	31.1	755	1840	34.6	
Ammoniacal Nitrogen (NH3-N)	ug/l															
Ammonia (NH4+)	ug/l	5000	320000	2400	430	350000	2800	360000	1600	910	9200	1000	320000	300000	850	
Ammonium (NH3)	ug/l	4800	300000	2500	460	370000	2900	340000	1500	860	8600	960	300000	290000	800	
Nitrate (NO3-)	ug/l	1920	2950	2210	1960	4440	2740	6370	5460	4850	2470	4640	4050	2390		
Nitrite (NO2-)	ug/l	1300	150	1400	60 < 5.0		1200	74	1100	38	1100	850	880 < 5.0	< 5.0		
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	22 < 10	< 10		13 < 10	< 10		
Mercury	ug/l	< 0.05	< 0.05	< 0.5	< 0.5	0.1	0.06 < 0.05		0.05 < 0.05	0.06	0.07	< 0.05	0.06	< 0.05		
Arsenic	ug/l	7.48	0.51	7.7	21	8.99	9.44	7.71	11.6	5.89	8.33	3.99	6.42	11.5	6.28	
Barium	ug/l	23	2.3	39	60	17	36	11	41	11	29	2.6	5.4	21	43	
Beryllium	ug/l	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	16	
Boron	ug/l	15	820	19	870	930	34	780	24	760	26	29	790	660	10	
Cadmium	ug/l	0.06 < 0.02	< 0.08	35	18	6.4	0.15	0.12	0.04	0.06	0.21	0.04	0.06	0.03	0.11	0.04
Chromium	ug/l	45	0.2	35	23	7.3	54	8.5	58	78	100	110	5.3	17	96	
Copper	ug/l	44	4.7	28	23	7.2	28	78	35	24	32	17	160	96	15	
Lead	ug/l	5.9	0.5	4.9	7.7	3.6	7.3	0.7	3.8	7.2	6.5	5.8	4.2	4.4	6.4	
Nickel	ug/l	3.1 < 0.5		5	12	4.5	4	3.7	1.3	3.5	0.7	0.7	1.3	6.1	< 0.5	
Selenium	ug/l	56	26 < 4.0		< 4.0	240	56	160	72		30	280	390	27		
Vanadium	ug/l	20	0.5	29	27	18	27	20	30	11	20	12	93	17	14	
Zinc	ug/l	4.6 < 0.5		13	16	6.7	9.4	1.9	7.8	5.7	6.5	12	< 0.5	3.6	7	
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(g,h,i)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
PAH, Total Detected USEPA 16	ug/l	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	
Sum of UK DWS four 7	ug/l															
Methyl tertiary butyl ether (MTBE)	ug/l	< 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	
Benzene	ug/l	< 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	
Toluene	ug/l	< 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	
Ethylbenzene	ug/l	< 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	
m,p-Xylene	ug/l	< 1.0	<													

Calculated pH	7.3
Calculated hardness	3096.66667

Project	London Resort - Initial 2020 groundwater
Project Number	0042936
Date	07/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)			500
Nitrate (NO3-)			50000
Nitrite (NO2-)			500
Cyanide	1	5	50
Mercury		0.07	
Arsenic	50		1
Barium			
Beryllium			
Boron			1000
Cadmium	0.08	0.45	5
Chromium	4.7		50
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene		0.017	
Benzo(k)fluoranthene		0.017	
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene		0.0082	
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics > C5-C6			
Aliphatics > C6-C8			
Aliphatics > C8-C10			
Aliphatics > C10-C12			
Aliphatics > C12-C16			
Aliphatics > C16-C21			
Aliphatics > C21-C35			
Total Aliphatics > C12-C35			
Aromatics > EC5-EC7			
Aromatics > EC7-EC8			
Aromatics > EC8-EC10			
Aromatics > EC10-EC12	0.4	1.4	
Aromatics > EC12-EC16			
Aromatics > EC16-EC21			
Aromatics > EC21-EC35			
Total Aromatics > EC12-EC35			
Total Aliphatics & Aromatics > C5			10
Phenols	7.7	46	

Certificate ref.	Round 1	Round 2	Round 3	20-46997-1	21-53427-	21-58921-1	21-66176-1	21-72246-1	21-74880-1
Sampling Round	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8	Round 9
Date	30/09/2020	21/10/2020	16/11/2020	09/12/2020	26/01/2021	23/02/2021	29/03/2021	27/04/2021	11/05/2021
Anuifer	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk
Sample ID	BH101	BH101	BH101	BH101	BH101	BH101	BH101	BH101	BH101
Depth	5.74-39.11	5.23-39.11	5.94-39.15	4.75-39.17	4.85-39.20	4.51-39.14	6.32-39.18	6.16-39.20	
Determinand	Units								
pH	pH units	7.3	7.3	7.2	7.1	7.2	6.2	7.2	7.1
Conductivity	mS/cm	8.2	15	24	8.6	17	16	8.8	18
Dissolved Oxygen	mg/l	2.4 < 1.0	1.6	1.5	1.8	1.8	1.2 < 1.0	1.4	1.4
BOD	mg/l	2	16 < 1.0	< 1.0	7.4	9.3	11	11	1.2
Total Dissolved Solids	g/l	12	15	14	14	14	5.2	13	14
Hardness	mg/l	2890	3100	3300	3240	3030	2990	2740	3610
Ammoniacal Nitrogen (NH3-N)	ug/l								
Ammonia (NH4+)	ug/l	8400	7900	9200	11000	9700	9000	9300	8000
Ammonium (NH3)	ug/l	7900	8400	9700	11000	9200	8500	8800	7500
Nitrate (NO3-)	ug/l	150	980	1760	340	1010	1130	100	1400
Nitrite (NO2-)	ug/l	34	21 < 5.0		7.9 < 5.0		48	5.1	5.8 < 5.0
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	ug/l	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Arsenic	ug/l	19	4.6	21.7	57	58.2	26.6	21	44
Barium	ug/l	130	150	130	130	130	99	140	120
Beryllium	ug/l	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	ug/l	1100	1400	1400	1400	1400	1500	1200	1300
Cadmium	ug/l	< 0.02	< 0.08	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.02
Chromium	ug/l	8	0.6	6.4	9.5	8.8	4.1	4.2	7.8
Copper	ug/l	160	8.1	130	130	74	92	76	5.4 < 0.7
Lead	ug/l	< 0.2	4.7 < 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Nickel	ug/l	7.1	8.1	6.2	8.3	11	5.3	9.2	6.9
Selenium	ug/l	56 < 4.0	49	57	4.0	49	9.6	4.4	34
Vanadium	ug/l	7.9	< 1.7	17	39	48	6.1	2.6	22
Zinc	ug/l	7.2	13	7.7	15	6.8	7.4	7.2	8.9
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH, Total Detected USEPA 16	ug/l	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Sum of UK DWS four 7	ug/l								
Methyl tertiary butyl ether (MTBE)	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of detected Xylenes	ug/l								
Sum of detected BTEX	ug/l								
Aliphatics > C5-C6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C6-C8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C8-C10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C10-C12	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics > C12-C16	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics > C16-C21	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatics > C21-C35	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatics > C12-C35	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics > EC5-EC7	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC7-EC8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC8-EC10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC10-EC12	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics > EC12-EC16	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics > EC16-EC21	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatics > EC21-EC35	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Aromatics > EC12-EC35	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatics & Aromatics > C5	ug/l								
Phenols	ug/l				< 10	< 10	< 10		< 10

21-53427-1	21-58923-1	21-58923-1	21-58923-1	21-58923-1	21-66176-1	21-66176-1	21-66176-1	21-72246-1	21-72246-1	21-72246-1	21-72246-1	21-74880-1	21-74880-1	21-74880-1	
Round 5	Round 6	Round 6	Round 6	Round 7	Round 7	Round 7	Round 7	Round 8	Round 8	Round 8	Round 8	Round 9	Round 9	Round 9	
26/01/2021	23/02/2021	23/02/2021	23/02/2021	29/03/2021	29/03/2021	29/03/2021	29/03/2021	27/04/2021	27/04/2021	27/04/2021	27/04/2021	11/05/2021	11/05/2021	11/05/2021	
Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	Perched	
BH201	WS202	WS203	BH201	WS202	WS203	BH201	WS202	WS203	BH201	WS202	WS203	BH201	WS202	WS203	BH201
3.95-6.73	7.16-10.94	1.30-4.47	3.87-6.73	8.05-10.93	1.31-4.49	3.95-6.72	8.05-10.93	1.28-4.47	4.03-6.13						
12	12.9	13	10.6	13.1	13.1	12.1	13.1	13.1	12	13.1	13.1	12	13.1	13.1	12
4.6	67	48	4.4	82	64	5.1	73	59	5	80	62	5	80	62	5
2.1	3.5 < 1.0		2.7	2.2 < 1.0		1.9	3.3 < 1.0		1.8	3.8 < 1.0		1.9	3.8 < 1.0		1.9
2.3	1	19	3.2 < 1.0		40	3.6	4.2	16	3 < 1.0		3.7	4	3 < 1.0		4
2.4	39	22	2.9	36	34	2.8	40	27	2.4	43	27	2.7	2.4	43	27
21	18.6	130	15	6.6	49.3	16.2	14.4	47.4	18.8	18.6	89.3	18.5	18.8	18.6	89.3
3300	7500	23000	6700	41000	53000	3600	31000	48000	3300	47000	41000	3600	31000	48000	3600
3100	7100	21000	6300	38000	50000	3400	29000	46000	3100	44000	39000	3600	31000	48000	3600
2680	1130	2420	1700	1040	1820	1560	990	1820	930	1450	2280	2280	930	1450	2280
640	610 < 5.0		1700	70 < 5.0		1400	140 < 5.0		1200	740 < 5.0		810	1200	740 < 5.0	810
< 10	10	16 < 10	< 10	12 < 10	< 10	14 < 10	< 10	14 < 10	< 10	15 < 10	< 10	15 < 10	< 10	15 < 10	< 10
0.1	0.2	0.18	0.13	< 0.05	0.15	0.39	< 0.05	< 0.05	0.12	< 0.05	0.11	0.08	0.12	< 0.05	0.11
53.2	57.3	25.4	75.7	6.86	15.6	48.5	17.3	16.7	61.4	12.4	10.6	81	61.4	12.4	10.6
6.8	11	18	7.4	9.2	15	7.7	7	15	7.3	5.5	13	7.6	7.3	5.5	13
< 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	< 0.1	< 0.1	< 0.1
59	62	68	55	55	55	59	64	52	66	80	42	59	66	80	42
0.09	0.44	0.47	0.13	0.11	0.14	0.1	0.12	0.04	0.08	0.11	0.32	0.1	0.08	0.11	0.32
10	68	3.5	3.1	32	2.9	8.1	1.7	1.7	8	21	1.5	7.8	8	21	1.5
21	81	67	21	4.1	10	18	13	< 0.7	25	19	160	50	25	19	160
2	4.7 < 0.2		4	1.3 < 0.2		1.3	1.4 < 0.2		3	1.7 < 0.2		2.3	3	1.7 < 0.2	
16	200	880	23	110	620	20	110	900	18	57	990	18	18	57	990
19	520	260	25	480	180	17	670	200 < 4	230	180	26	19	230	180	26
480	230	150	900	120	110	600	190	90	540	45	140	650	540	45	140
5	22	22	2.4	1.9	6.1	6.3	2.2	3.9	4.3	0.5	2.8	8.6	4.3	0.5	2.8
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
< 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	< 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	< 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	< 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	< 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	< 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	< 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	< 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
< 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	< 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	< 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	< 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	< 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	< 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	< 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	< 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
< 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	< 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	< 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	< 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	< 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	< 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	< 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	< 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
< 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	< 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	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1													

Calculated pH	7.2
Calculated hardness	2043.333333

Project	London Resort - Initial 2020 groundwater
Project Number	0042936
Date	07/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)			500
Nitrate (NO3-)			50000
Nitrite (NO2-)			500
Cyanide	1	5	50
Mercury		0.07	1
Arsenic	50		10
Barium			5
Beryllium			1000
Boron			1000
Cadmium	0.08	0.45	5
Chromium	4.7		50
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene		0.017	
Benzo(k)fluoranthene		0.017	
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene		0.0082	
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics > C5-C6			
Aliphatics > C6-C8			
Aliphatics > C8-C10			
Aliphatics > C10-C12			
Aliphatics > C12-C16			
Aliphatics > C16-C21			
Aliphatics > C21-C35			
Total Aliphatics > C12-C35			
Aromatics > EC5-EC7			
Aromatics > EC7-EC8			
Aromatics > EC8-EC10			
Aromatics > EC10-EC12	0.4	1.4	
Aromatics > EC12-EC16			
Aromatics > EC16-EC21			
Aromatics > EC21-EC35			
Total Aromatics > EC12-EC35			
Total Aliphatics & Aromatics > C5			10
Phenols	7.7	46	

Certificate ref.	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8	Round 9
Sampling Round	30/09/2020	21/10/2020	16/11/2020	09/12/2020	26/01/2021	22/02/2021	29/03/2021	27/04/2021	11/05/2021
Aquifer	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk
Sample ID	BH202	BH202	BH202	BH202	BH202	BH202	BH502	BH202	BH202
Depth	3.75-30.30	None Supplied	4.20-6.73	3.84-30.41	3.47-30.44	3.62-30.44	12.59-19.80	4.31-30.48	

Determinand	Units	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8	Round 9
pH	pH units	7.3	7.2	7.1	7.1	7.2	7.9	7.2	7.2	7.1
Conductivity	mS/cm	5.6	8.1	9.6	11	8.6	11	1.5	1.1	7.9
Dissolved Oxygen	mg/l	< 1.0	< 1.0	1.1	2.1	2.6	2.5	5.2	1.4	1.6
BOD	mg/l	4.4	12	< 1.0	< 1.0	9.8	4.1	8.6	2.9	2.2
Total Dissolved Solids	g/l	7.2	8.3	5.5	8.4	8.7	8.3	1	8.2	8.9
Hardness	mg/l	1960	2050	2120	2270	1820	1880	1010	2080	1970
Ammoniacal Nitrogen (NH3-N)	ug/l									
Ammonia (NH4+)	ug/l	4600	5500	5600	6200	5200	5000	63	5700	4800
Ammonium (NH3)	ug/l	4400	5800	5900	5900	4900	4700	59	5400	4600
Nitrate (NO3-)	ug/l	100	740	2740	1270	2830	2270	115	210	1660
Nitrite (NO2-)	ug/l	17	100	12	21	< 5.0	14	< 5.0	< 5	< 5.0
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	ug/l	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Arsenic	ug/l	9.61	4.3	26.4	36	32.5	18.9	6.41	20.5	22.1
Barium	ug/l	110	160	120	110	95	68	59	99	93
Beryllium	ug/l	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	ug/l	550	630	630	730	730	830	400	700	730
Cadmium	ug/l	< 0.02	< 0.08	0.02	0.03	< 0.02	0.02	< 0.02	0.03	0.04
Chromium	ug/l	8.1	0.4	7.7	7.4	7.4	2.5	28	5.3	6.2
Copper	ug/l	180	9.6	170	41	38	74	6.4	6.3	8.8
Lead	ug/l	< 0.2	180	4.1	< 0.2	0.3	< 0.2	< 0.2	0.3	< 0.2
Nickel	ug/l	15	4.2	12	16	20	15	8.3	13	15
Selenium	ug/l	34	< 4.0	59	33	< 4	30	20	< 4	32
Vanadium	ug/l	4.2	< 1.7	23	29	26	6	7.8	15	17
Zinc	ug/l	91	14	7.3	24	9.9	13	11	15	21
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH, Total Detected USEPA 16	ug/l	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Sum of UK DWS four 7	ug/l									
Methyl tertiary butyl ether (MTBE)	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of detected Xylenes	ug/l									
Sum of detected BTEX	ug/l									
Aliphatics > C5-C6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C6-C8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C8-C10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C10-C12	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C12-C16	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C16-C21	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C21-C35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatics > C12-C35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC5-EC7	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC7-EC8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC8-EC10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC10-EC12	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC12-EC16	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC16-EC21	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC21-EC35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatics > EC12-EC35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatics & Aromatics > C5	ug/l									
Phenols	ug/l					64	< 10	< 10		24

Calculated pH	7.2
Calculated hardness	713.3333333

Project	London Resort - Initial 2020 groundwater
Project Number	0042936
Date	07/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)			500
Nitrate (NO3-)			50000
Nitrite (NO2-)			500
Cyanide	1	5	50
Mercury		0.07	
Arsenic	50		1
Barium			
Beryllium			
Boron			1000
Cadmium	0.08	0.45	5
Chromium	4.7		50
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene		0.017	
Benzo(k)fluoranthene		0.017	
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h)perylene		0.0082	
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics > C5-C6			
Aliphatics > C6-C8			
Aliphatics > C8-C10			
Aliphatics > C10-C12			
Aliphatics > C12-C16			
Aliphatics > C16-C21			
Aliphatics > C21-C35			
Total Aliphatics > C12-C35			
Aromatics > EC5-EC7			
Aromatics > EC7-EC8			
Aromatics > EC8-EC10			
Aromatics > EC10-EC12	0.4	1.4	
Aromatics > EC12-EC16			
Aromatics > EC16-EC21			
Aromatics > EC21-EC35			
Total Aromatics > EC12-EC35			
Total Aliphatics & Aromatics > C5			10
Phenols	7.7	46	

Certificate ref	Round 1	Round 1	Round 2	Round 2	Round 2	Round 2	Round 2	Round 3	Round 3	Round 3	21-50487-1	21-50487-1	21-53292-1	21-53292-1
Sampling Round	Round 1	Round 1	Round 2	Round 2	Round 2	Round 2	Round 2	Round 3	Round 3	Round 3	Round 4	Round 4	Round 5	Round 5
Date	13/10/2020	13/10/2020	23/10/2020	22/10/2020	22/10/2020	22/10/2020	22/10/2020	17/11/2020	17/11/2020	17/11/2020	06/01/2021	06/01/2021	25/01/2021	25/01/2021
Aquifer	Chalk	Chalk	Alluvium	Chalk	Chalk	Alluvium	Chalk	Alluvium	Chalk	Alluvium	Alluvium	Alluvium	Alluvium	Alluvium
Sample ID	BH706	BH707	BH704	BH705	BH707	BH706	BH704	BH705	BH706	BH704	BH705	BH704	BH705	BH705
Depth	29.27	19.41	4.57-5.09	2.84-19.00	11.70-19.41	6.84-29.27	4.54-5.00	2.76-18.99	6.74-29.26	4.44-5.09	4.72-19.02	4.38-5.08	2.42-19.01	
Determinand	Units													
pH	pH units	7.4	7.1	6.9	7.3	7.1	7.3	7	7.3	7.4	6.9	7.2	7.3	7.7
Conductivity	mS/cm	8.8	11	1.3	0.68	0.75	0.66	1.5	0.82	0.78	1.7	0.89	1.4	0.7
Dissolved Oxygen	mg/l	7.5	5	3.3	7.8	5.5	7.4	2.4	9	8.1	4	6.2	4.2	9.7
BOD	mg/l	1.1	< 1.0	38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	2.5	1.6
Total Dissolved Solids	ug/l	4.2	6.6	0.79	0.42	0.42	0.31	0.85	0.45	0.49	1.5	0.7	1.3	0.64
Hardness	mg/l	525	663	1220	609	664	599	1180	496	458	1180	442	1230	596
Ammoniacal Nitrogen (NH3-N)	ug/l													
Ammonia (NH4+)	ug/l	< 15	< 15	140	340	230	230	20	< 15	< 15	< 15		62	< 15
Ammonium (NH3)	ug/l	< 15	< 15	150	360	240	250	21	< 15	< 15	< 15		58	< 15
Nitrate (NO3-)	ug/l	75600	71200	151000	75400	50900	59400	149000	80200	58900	194000	82400	277000	83400
Nitrite (NO2-)	ug/l	< 5.0	< 5.0	82	84	76	60	69	5.0	11	110	20	76	15
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Arsenic	ug/l	0.2	0.36	2.17	0.66	0.62	0.48	2.75	1.47	1.29	1.06	0.86	1.8	0.48
Barium	ug/l	47	45	120	50	50	48	160	63	59	130	71	110	48
Beryllium	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.8	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	ug/l	42	58	64	50	60	52	67	48	47	54	45	64	45
Cadmium	ug/l	< 0.02	< 0.02	0.15	< 0.02	< 0.02	< 0.02	0.13	0.07	< 0.02	0.16	< 0.02	0.13	< 0.02
Chromium	ug/l	2.9	4	7.9	3.6	4.6	3.9	7.8	7	3.7	2	6.5	2	2.8
Copper	ug/l	2	2	7.8	2.2	2.9	3.3	18	27	34	6.5	6.3	7.1	2.2
Lead	ug/l	0.9	< 0.2	< 0.2	< 0.2	< 0.2	0.8	3.1	0.4	0.5	< 0.2	< 0.2	< 0.2	< 0.2
Nickel	ug/l	1.2	5.6	12	4	6.5	3.8	17	7.3	3.7	9.4	3	37	4.1
Selenium	ug/l	7	1.5	2	1.3	6	3.8	3	6.3	3	6.3	1.3	11	1.5
Vanadium	ug/l	< 0.2	< 0.2	3.4	0.9	0.6	0.6	7.6	2.7	2.4	1.7	2.9	2.8	0.6
Zinc	ug/l	5.9	7.1	44	8.8	5.1	9.6	59	8.8	6	15	8.7	27	12
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH, Total Detected USEPA 16	ug/l	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Sum of UK DWS four 7	ug/l													
Methyl tertiary butyl ether (MTBE)	ug/l	< 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
Benzene	ug/l	< 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
Toluene	ug/l	< 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
Ethylbenzene	ug/l	< 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
m,p-Xylene	ug/l	< 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
o-Xylene	ug/l	< 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
Sum of detected Xylenes	ug/l													
Sum of detected BTEX	ug/l													

Appendix D Assessment spreadsheets – surface waters

Calculated pH	7.7
Calculated hardness	353.55

Project	London Resort - 2021/21 surface waters
Project Number	0042936
Date	02/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)		500	
Nitrate (NO3-)		50000	
Nitrite (NO2-)		500	
Cyanide	1	5	50
Mercury	0.07		1
Arsenic	50		10
Barium			
Beryllium			
Boron			1000
Cadmium	0.08	0.45	5
Chromium	4.7		50
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene	0.017		
Benzo(k)fluoranthene	0.017		
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene	0.0082		
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics >C5-C6			
Aliphatics >C6-C8			
Aliphatics >C8-C10			
Aliphatics >C10-C12			
Aliphatics >C12-C16			
Aliphatics >C16-C21			
Aliphatics >C21-C35			
Total Aliphatics >C12-C35			
Aromatics >EC5-EC7			
Aromatics >EC7-EC8			
Aromatics >EC8-EC10			
Aromatics >EC10-EC12	0.4	1.4	
Aromatics >EC12-EC16			
Aromatics >EC16-EC21			
Aromatics >EC21-EC35			
Total Aromatics >EC12-EC35			
Total Aliphatics & Aromatics >C5			10
Phenols	7.7	46	

Certificate ref.	20-36002-1	20-36002-1	20-36994-1	20-36994-1	20-43525-1	20-43525-1	20-43525-1	20-47914-1	20-47914-1	20-47914-1	20-47914-1	21-53292-1	21-53987-1	21-56037-1
Sampling Round	Round 1	Round 1	Round 2	Round 2	Round 3	Round 3	Round 3	Round 4	Round 4	Round 4	Round 4	Round 5	Round 5	Round 6
Date	13/10/2020	13/10/2020	20/10/2020	20/10/2020	19/11/2020	19/11/2020	19/11/2020	11/12/2020	11/12/2020	11/12/2020	11/12/2020	25/01/2021	28/01/2021	19/02/2021
Catchment	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet	River Ebbsfleet
Sample ID	SW014	SW016	SW014	SW016	SW014	SW015	SW016	SW014	SW015	SW016	SW014	SW016	SW014	SW014
Depth														
Determinand														
pH	pH units	7.7	7.6	7.8	7.9	7.8	7.5	7.7	7.9	7.5	7.5	7.9	7.9	7.7
Conductivity	mS/cm	0.64	0.67	0.55	0.63	0.66	0.31	0.67	0.47	0.3	0.85	0.67	0.89	0.75
Dissolved Oxygen	mg/l	5.6	9.1	8.1	10	7.5	1.6	7.4	8	4.5	6.9	9.9	8.5	9.2
BOD	mg/l	5	< 1.0	5.7	1.3	< 1.0	5.2	2.6	8	4.5	6.9	1	< 1.0	< 1.0
Total Dissolved Solids	g/l	0.39	0.36	0.25	0.48	0.35	0.18	0.41	0.32	0.2	0.61	0.47	0.58	0.38
Hardness	mg/l	362	378	329	404	363	155	377	252	184	371	414	339	386
Ammoniacal Nitrogen (NH3-N)	ug/l													
Ammonia (NH4+)	ug/l	250	< 15	150	< 15	37	240	< 15	650	930	850	< 15	35	< 15
Ammonium (NH3)	ug/l	260	< 15	140	< 15	35	230	< 15	610	880	800	< 15	33	< 15
Nitrate (NO3-)	ug/l	26300	38000	36800	44200	32400	310	34600	24500	2300	38400	56900	35000	53000
Nitrite (NO2-)	ug/l	31	34	230	25	84	26	54	160	80	94	5.0	71	58
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Arsenic	ug/l	0.27	0.19	2.09	1.84	0.2	1.46	< 0.15	1.18	1.47	1.84	0.41	1.09	1.47
Barium	ug/l	37	38	34	36	50	30	50	35	21	53	38	43	41
Beryllium	ug/l	< 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
Boron	ug/l	25	31	22	35	35	30	27	29	28	28	38	31	87
Cadmium	ug/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02	0.03	< 0.02	0.02	< 0.02
Chromium	ug/l	2.7	2.2	4.7	6.5	3.1	1.7	3.2	2.6	1.6	2.3	2.8	1.8	3.6
Copper	ug/l	2.9	4.4	3.3	3.3	4.6	5.2	4.1	7.8	5.1	6.4	3.8	4.3	5
Lead	ug/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	< 0.2	2.1	0.3	0.3	< 0.2	0.3	< 0.2
Nickel	ug/l	2	2.5	5.5	7	2.6	8.5	2.2	2.5	2.3	3	3.2	2.3	2.7
Selenium	ug/l	0.9	1.1	2.6	2.7	1	< 0.6	1.2	0.9	< 0.6	1.2	1.2	0.9	1.5
Vanadium	ug/l	0.5	< 0.2	6.8	6.6	0.4	0.4	< 0.2	3.1	1	2.7	0.6	1.8	1.8
Zinc	ug/l	12	81	5.2	8.5	22	11	12	16	17	28	11	22	13
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH, Total Detected USEPA 16	ug/l													
Sum of UK DWS four 7	ug/l													
Methyl tertiary butyl ether (MTBE)	ug/l	< 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
Benzene	ug/l	< 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
Toluene	ug/l	< 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
Ethylbenzene	ug/l	< 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
m,p-Xylene	ug/l	< 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
o-Xylene	ug/l	< 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
Sum of detected Xylenes	ug/l													
Sum of detected BTEX	ug/l													
Aliphatics >C5-C6	ug/l	< 1.0	< 1.0	< 1.0	< 1.									

Calculated pH	7.9
Calculated hardness	604.666667

Project	London Resort - 2021/21 surface waters
Project Number	0042936
Date	02/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)		500	
Nitrate (NO3-)		50000	
Nitrite (NO2-)		500	
Cyanide	1	5	50
Mercury		0.07	1
Arsenic	50		10
Barium			
Beryllium			
Boron			1000
Cadmium	0.08	0.45	5
Chromium	4.7		50
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene		0.017	
Benzo(k)fluoranthene		0.017	
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene		0.0082	
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics >C5-C6			
Aliphatics >C6-C8			
Aliphatics >C8-C10			
Aliphatics >C10-C12			
Aliphatics >C12-C16			
Aliphatics >C16-C21			
Aliphatics >C21-C35			
Total Aliphatics >C12-C35			
Aromatics >EC5-EC7			
Aromatics >EC7-EC8			
Aromatics >EC8-EC10			
Aromatics >EC10-EC12	0.4	1.4	
Aromatics >EC12-EC16			
Aromatics >EC16-EC21			
Aromatics >EC21-EC35			
Total Aromatics >EC12-EC35			
Total Aliphatics & Aromatics >C5			10
Phenols	7.7	46	

Certificate ref.	20-33704	20-36994-1	20-42107-1	20-47006-1	21-53292-1	21-58037-1	21-66126-1	21-72536-1	21-74887-1
Sampling Round	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8	Round 9
Date	30/09/2020	20/10/2020	17/11/2020	08/12/2020	25/01/2021	19/02/2021	30/03/2021	26/04/2021	10/05/2021
Catchment	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh	Black Duck Marsh
Sample ID	SW002	SW002	SW002	SW002	SW002	SW002	SW002	SW002	SW002
Depth									
Determinand	Units								
pH	pH units	8.1	8	8	8	7.9	7.5	7.9	7.7
Conductivity	mS/cm	1.7	2	2.2	2.1	1.8	1.7	1.7	2.2
Dissolved Oxygen	mg/l	4.2	4.6	5.3	5.8	5.6	1.4	5.9	6
BOD	mg/l	1.5	< 1.0	< 1.0	< 1.0	1.9	11	13	2.6
Total Dissolved Solids	g/l	1.8	1.1	1.2	1.5	1.2	0.92	1.5	1.5
Hardness	mg/l	670	664	636	511	553	441	563	709
Ammoniacal Nitrogen (NH3-N)	ug/l								
Ammonia (NH4+)	ug/l	750	1100	690	1100	200	120	94	120
Ammonium (NH3)	ug/l	790	1000	650	1000	190	110	88	110
Nitrate (NO3-)	ug/l	540	390	880	440	710	1080	360	880
Nitrite (NO2-)	ug/l	44	29	74	22	15	13	22	< 5.0
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Arsenic	ug/l	5.33	7.99	7.11	8.22	6.05	7.47	6.65	5.42
Barium	ug/l	65	57	52	47	54	41	60	59
Beryllium	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	ug/l	190	200	200	160	150	140	150	180
Cadmium	ug/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium	ug/l	6.7	8.3	5.7	2.5	2.9	4	3.6	3.6
Copper	ug/l	15	4.5	23	15	5.5	33	5.1	8.2
Lead	ug/l	0.8	< 0.2	< 0.2	0.6	< 0.2	1.1	< 0.2	< 0.2
Nickel	ug/l	2.5	7.4	3.6	3.1	3.4	3.5	2.4	2.8
Selenium	ug/l	7.2	5.7	11	5.5	6.2	5.7	6.6	5.5
Vanadium	ug/l	2.2	3.3	7	6.8	4.8	6.8	5.5	3.3
Zinc	ug/l	4.4	28	13	18	14	3.8	9.5	14
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH, Total Detected USEPA 16	ug/l								
Sum of UK DWS four 7	ug/l								
Methyl tertiary butyl ether (MTBE)	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of detected Xylenes	ug/l								
Sum of detected BTEX	ug/l								
Aliphatics >C5-C6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics >C6-C8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics >C8-C10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics >C10-C12	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics >C12-C16	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics >C16-C21	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics >C21-C35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatics >C12-C35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC5-EC7	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC7-EC8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC8-EC10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC10-EC12	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC12-EC16	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC16-EC21	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics >EC21-EC35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatics >EC12-EC35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatics & Aromatics >C5	ug/l								
Phenols	ug/l					< 1.0	< 1.0	< 1.0	< 1.0

Calculated pH	8.0
Calculated hardness	367

Project	London Resort - 2021/21 surface waters
Project Number	0042936
Date	02/12/2020

Determinand	Environmental Quality Standards 2014 AA Fresh	Environmental Quality Standards 2014 MAC Fresh	Water Supply Regulations 2016 Potable
pH			6.5 - 9.0
Conductivity			2500
Dissolved Oxygen			
BOD			
Total Dissolved Solids			
Hardness			
Ammoniacal Nitrogen (NH3-N)			
Ammonia (NH4+)			
Ammonium (NH3)			500
Nitrate (NO3-)			50000
Nitrite (NO2-)			500
Cyanide	1	5	50
Mercury		0.07	1
Arsenic	50		10
Barium			
Beryllium			
Boron			1000
Cadmium	0.08	0.45	5
Chromium	4.7		50
Copper	1		2000
Lead	1.2	14	10
Nickel	4	34	20
Selenium			10
Vanadium			
Zinc	10.9		
Naphthalene	2	130	
Acenaphthene			
Acenaphthylene			
Fluoranthene	0.0063	0.12	
Anthracene	0.1	0.1	
Phenanthrene			
Fluorene			
Chrysene			
Pyrene			
Benzo(a)anthracene			
Benzo(b)fluoranthene		0.017	
Benzo(k)fluoranthene		0.017	
Benzo(a)pyrene	0.00017	0.27	0.01
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene		0.0082	
Indeno(1,2,3-cd)pyrene			
PAH, Total Detected USEPA 16			
Sum of UK DWS four 7			0.1
Methyl tertiary butyl ether (MTBE)			
Benzene	10	50	1
Toluene	74	380	
Ethylbenzene			
m,p-Xylene			
o-Xylene			
Sum of detected Xylenes			
Sum of detected BTEX			
Aliphatics > C5-C6			
Aliphatics > C6-C8			
Aliphatics > C8-C10			
Aliphatics > C10-C12			
Aliphatics > C12-C16			
Aliphatics > C16-C21			
Aliphatics > C21-C35			
Total Aliphatics > C12-C35			
Aromatics > EC5-EC7			
Aromatics > EC7-EC8			
Aromatics > EC8-EC10			
Aromatics > EC10-EC12	0.4	1.4	
Aromatics > EC12-EC16			
Aromatics > EC16-EC21			
Aromatics > EC21-EC35			
Total Aromatics > EC12-EC35			
Total Aliphatics & Aromatics > C5			10
Phenols	7.7	46	

Certificate ref.	20-43525-1	20-47914-1	21-53987-1	21-58037-1	21-66167-1	21-72574-1
Sampling Round	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8
Date	19/11/2020	11/12/2020	28/01/2021	19/02/2021	29/03/2021	29/04/2021
Catchment	Bamber Pit	Bamber Pit	Bamber Pit	Bamber Pit	Bamber Pit	Bamber Pit
Sample ID	SW013	SW013	SW013	SW013	SW013	SW013
Depth						
Determinand	Units					
pH	pH units	8	8	8.1	8.1	8.1
Conductivity	mS/cm	0.78	0.69	0.8	0.85	0.66
Dissolved Oxygen	mg/l	8.7	8.3	9.7	10	11
BOD	mg/l	1.3	8.3	< 1.0	< 1.0	2.9
Total Dissolved Solids	g/l	0.44	0.55	0.56	0.48	0.52
Hardness	mg/l	344	370	416	348	357
Ammoniacal Nitrogen (NH3-N)	ug/l					
Ammonia (NH4+)	ug/l	100	930	41	40	220
Ammonium (NH3)	ug/l	96	880	39	38	210
Nitrate (NO3-)	ug/l	6250	10600	18900	20700	26400
Nitrite (NO2-)	ug/l	100	76	59	49	58
Cyanide	ug/l	< 10	< 10	< 10	< 10	< 10
Mercury	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Arsenic	ug/l	0.9	1.41	1.2	2.2	2.18
Barium	ug/l	46	35	34	34	37
Beryllium	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron	ug/l	78	87	81	140	87
Cadmium	ug/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium	ug/l	2.6	2.4	2	3.2	3.4
Copper	ug/l	6.1	3.7	3.1	5.3	5.6
Lead	ug/l	0.4	0.3	0.2	0.2	0.5
Nickel	ug/l	9.4	4.1	4.5	4.1	5.1
Selenium	ug/l	1.7	2.5	2.3	3.2	4.9
Vanadium	ug/l	1.3	2.1	1.8	3.1	2.9
Zinc	ug/l	17	8	7.9	5.8	22
Naphthalene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH, Total Detected USEPA 16	ug/l					
Sum of UK DWS four 7	ug/l					
Methyl tertiary butyl ether (MTBE)	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m,p-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sum of detected Xylenes	ug/l					
Sum of detected BTEX	ug/l					
Aliphatics > C5-C6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C6-C8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C8-C10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C10-C12	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C12-C16	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C16-C21	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatics > C21-C35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatics > C12-C35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC5-EC7	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC7-EC8	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC8-EC10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC10-EC12	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC12-EC16	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC16-EC21	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatics > EC21-EC35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatics > EC12-EC35	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatics & Aromatics > C5	ug/l					
Phenols	ug/l		< 10	< 10	< 10	< 10

Appendix E Assessment spreadsheets - sediment

calculated SOM	6.79473684	Project:	London Resort - Sediments
SOM used for threshold	1%	Project Number:	0042936
		Date:	Jan-2021

N/A = no screening criteria available

Screening criteria: C45L/S4UL

	Residential without Uptake	Public Open Space (Parks)	Commercial
Cyanide	mg/kg	760	N/A
Free Cyanide	mg/kg	760	N/A
Arsenic	mg/kg	40	168
Barium	mg/kg	N/A	N/A
Beryllium	mg/kg	1.7	63
Boron	mg/kg	11000	46000
Cadmium	mg/kg	149	532
Chromium	mg/kg	910	33000
Chromium VI	mg/kg	21	220
Copper	mg/kg	7100	44000
Lead	mg/kg	310	1300
Mercury (elemental)	mg/kg	1.2	30
Mercury (inorganic)	mg/kg	56	240
Nickel	mg/kg	180	800
Selenium	mg/kg	430	1800
Vanadium	mg/kg	1200	5000
Zinc	mg/kg	40000	170000
TPH	mg/kg	490	N/A
Benzene	mg/kg	0.38	90
Toluene	mg/kg	869	87000
Ethyl Benzene	mg/kg	83	17000
m/p Xylenes	mg/kg	79	17000
o Xylenes	mg/kg	88	17000
Xylenes	mg/kg	79	17000
MTBE	mg/kg	N/A	N/A
Naphthalene	mg/kg	2.3	1200
Acenaphthylene	mg/kg	2900	29000
Acenaphthene	mg/kg	3000	29000
Fluorene	mg/kg	2800	20000
Phenanthrene	mg/kg	1300	6200
Anthracene	mg/kg	31000	150000
Fluoranthene	mg/kg	1500	6300
Pyrene	mg/kg	3700	15000
Benzo[a]anthracene	mg/kg	11	49
Chrysene	mg/kg	30	93
Benzo[b]fluoranthene	mg/kg	3.9	13
Benzo[k]fluoranthene	mg/kg	110	370
Benzo[a]pyrene	mg/kg	3.2	11
Indeno[123-cd]pyrene	mg/kg	45	150
Dibenzo[ah]anthracene	mg/kg	0.31	1.1
Benzo[ghi]perylene	mg/kg	360	1400
Total USEPA 16 PAHs	mg/kg	N/A	N/A
Aliphatic C5 - C6	mg/kg	42	95000
Aliphatic C6 - C8	mg/kg	100	150000
Aliphatic C8 - C10	mg/kg	27	14000
Aliphatic C10 - C12	mg/kg	130	21000
Aliphatic C12 - C16	mg/kg	1100	25000
Aliphatic C16 - C21	mg/kg	65000	450000
Aliphatic C21 - C35	mg/kg	64000	450000
Total Aliphatic	mg/kg	N/A	N/A
Aromatic C5 - C7	mg/kg	370	76000
Aromatic C7 - 8	mg/kg	860	87000
Aromatic C8 - C10	mg/kg	47	7200
Aromatic C10 - 12	mg/kg	250	9200
Aromatic C12 - C16	mg/kg	1800	10000
Aromatic C16 - C21	mg/kg	1900	7600
Aromatic C21 - C35	mg/kg	1900	7800
Total Aromatic	mg/kg	1900	N/A
Total Aliphatic and Aromatic	mg/kg	490	N/A

	Round 1	Round 1	Round 1	Round 1	Round 1	Round 1	Round 1	Round 4	Round 4	Round 4	Round 4	Round 8	Round 8
Date	30/10/2020	30/10/2020	30/10/2020	30/10/2020	13/10/2020	13/10/2020	13/10/2020	11/12/2020	11/12/2020	08/12/2020	08/12/2020	26/04/2021	26/04/2021
Catchment	Black Duck Marsh	Central Peninsula	Botany Marsh	Black Duck Marsh	River Ebbsfleet	River Ebbsfleet	Bamber Pit	River Ebbsfleet	Central Peninsula	Botany Marsh	Black Duck Marsh	Central Peninsula	
Sample ID	SW004	SW005	SW009	SW002	SW014	SW016	SW013	SW014	SW004	SW009	SW002	SW004	
Depth													
Units													
pH	pH units	10	8.5	8.4	8.2	10.5	8.9	9.7	9.7	9.7	9.4	9.5	
SOM	%	11	4.6	1.7	5.7	1.5	2.4	4	11	11	1	16	
Moisture	%	68	63	39	42	16	20	38	76	77	42	85	
TOC	%												
Asbestos Screen	D/ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Asbestos Quantification	%												
Cyanide	mg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.3	
Free Cyanide	mg/kg												
Arsenic	mg/kg	26	13	22	16	11	7.7	7.1	8.2	26	26	15	
Barium	mg/kg	120	75	41	60	90	96	35	100	110	47	61	
Beryllium	mg/kg	0.82	0.25	1.3	1	0.59	0.46	0.27	0.68	1.2	0.73	0.61	
Boron	mg/kg	2.9	3.1	3.2	3.1	0.6	0.2	1.5	5.9	6.5	10	24	
Cadmium	mg/kg	6.7	0.6	< 0.2	< 0.2	< 0.2	0.4	0.4	0.7	5.7	< 0.2	0.5	
Chromium	mg/kg	48	12	44	37		14	30	45	38	26	34	
Chromium VI	mg/kg												
Copper	mg/kg	87	26	13	19	27	120	13	48	71	15	23	
Lead	mg/kg	240	28	56	56	82	43	42	73	210	66	51	
Mercury (elemental)	mg/kg	1.8	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	1.4	< 0.3	1.1	
Mercury (inorganic)	mg/kg												
Nickel	mg/kg	30	14	30	27	16	34	9.8	29	31	30	19	
Selenium	mg/kg	6.5	4.2	< 1.0	1.5	< 1.0	< 1.0	< 1.0	2.6	7.3	< 1.0	< 1.0	
Vanadium	mg/kg	78	29	80	63	33	30	17	33	90	71	43	
Zinc	mg/kg	330	87	87	99	83	290	60	230	320	150	98	
TPH	mg/kg												
Benzene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethyl Benzene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
m/p Xylenes	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o Xylenes	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Xylenes	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Naphthalene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.3	< 0.05	< 0.05	6.3	
Acenaphthylene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.24	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.49	0.27	< 0.05	0.31	< 0.05	0.73	
Fluorene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.73	< 0.05	0.22	< 0.05	< 0.05	1.1	
Phenanthrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	10	1.1	0.5	0.99	0.16	0.05	
Anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.7	0.24	< 0.05	0.23	< 0.05	1.3	
Fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.34	13	1.4	0.81	2.6	0.31	< 0.05	
Pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.29	10	1.2	0.92	2.8	0.34	< 0.05	
Benzo[a]anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.19	5.9	0.76	0.31	1.8	< 0.05	0.37	
Chrysene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.28	4.3	0.57	0.48	1.3	< 0.05	0.42	
Benzo[b]fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.34	5	0.77	< 0.05	1.8	< 0.05	0.48	
Benzo[k]fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.19	2.1	0.37	< 0.05	0.97	< 0.05	0.17	
Benzo[a]pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.31	3.8	0.6	< 0.05	1.6	< 0.05	0.36	
Indeno[123-cd]pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	1.9	0.34	< 0.05	0.94	< 0.05	< 0.05	0.22	
Dibenzo[ah]anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo[ghi]perylene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.1	0.41	< 0.05	1.3	< 0.05	0.29	
Total USEPA 16 PAHs	mg/kg												
Aliphatic C5 - C6	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Aliphatic C6 - C8	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Aliphatic C8 - C10	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Aliphatic C10 - C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.2	< 1.0	< 1.0	
Aliphatic C12 - C16	mg/kg	5.1	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	8.3	< 2.0	< 2.0	26	
Aliphatic C16 - C21	mg/kg	38	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	21	< 8.0	< 8.0	47	
Aliphatic C21 - C35	mg/kg	100	< 8.0	< 8.0	< 8.0	< 8.0	15	< 8.0	79	< 8.0	< 8.0	150	
Total Aliphatic	mg/kg	150	< 10	< 10	< 10	< 10	15	180	< 10	110	< 10	220	
Aromatic C5 - C7	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Aromatic C7 - 8	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Aromatic C8 - C10	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
Aromatic C10 - 12	mg/kg	2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.7	< 1.0	< 1.0	46	
Aromatic C12 - C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	11	2.6	< 2.0	7.9	< 2.0	17	
Aromatic C16 - C21	mg/kg	< 10	< 10	< 10	< 10	< 10	73	10	34	35	< 10	24	
Aromatic C21 - C35	mg/kg	< 10	< 10	<									

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