

# Inflow and Discharge H1 Assessments SSSI Crossing Dewatering Technical Note

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## Document history

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# 1. Introduction

## 1.1. Overall Project Scope

This Scope of Works is part of a suite of documents describing Site Establishment and Enabling Works Design for the SZC Nuclear Power Station.

The Site Establishment and Enabling Works are physically bounded by the DCO “Red Line” boundary encompassing the development site.

Site Establishment and Enabling Works will interface with other designs such as Associated Developments (AD’s), Relocated Facilities (RF’s) and Statutory Undertakers’ Works at points within and around the red line boundary.

## 1.2. Package Description

The SSSI Crossing packages form part of the Enabling Works package. The Site of Special Scientific Interest (SSSI) crossings provide an essential link between the Temporary Construction Area (TCA) and Main Construction Area (MCA). The construction requires installation of an environmental barrier, which also forms permanent formwork for the abutment pile caps.

Figure 1-1 below presents the location of the SSSI crossing.

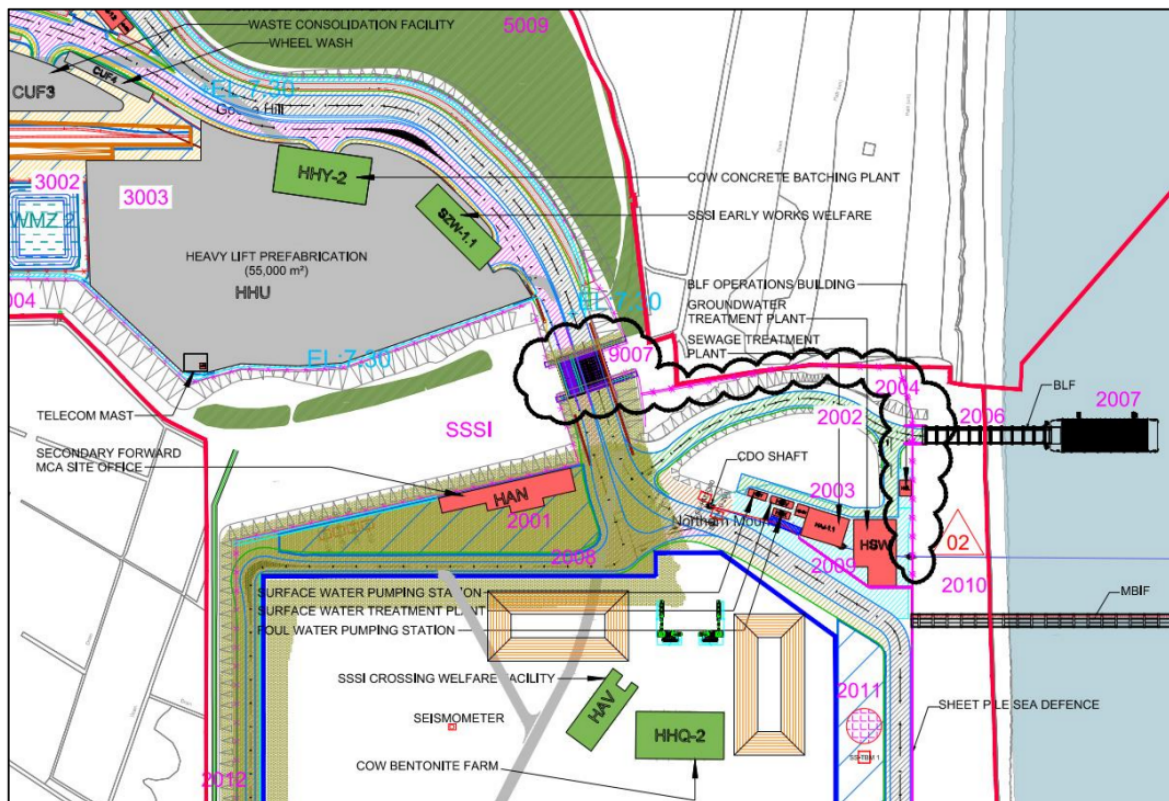


Figure 1-1 - Location of SSSI Crossing

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### 1.3. Scope of Assessment

The scope of this report is to:

- estimate likely groundwater dewatering requirements from two sheet piled cofferdams which will be installed to facilitate the construction of bridge pile caps associated with north and south wing walls for SSSI crossing bridge; and
- carry out a surface water pollution risk assessment in accordance with Environment Agency permitting guidance (Environment Agency, December 2019)

### 1.4. Sources of Information

Numerous phases of design, monitoring and assessment have been completed historically for SZC, and data for this assessment comes from various of these sources as detailed below. Internet hyperlinks are included for documents that are published in the public realm (such as Environmental Statement appendices), and the section/page of the relevant document is included in this report. For any documents that are not published in the public realm, all relevant information for this assessment has been reproduced in this report. The following site specific sources were used for this assessment:

- “SZC-EW0411-ATK-XX-000-XXXXXX-REP-CIV-000010: Groundwater Monitoring Report between 2020-2022” (Atkins Ltd, 09 January 2023);
- [Sizewell C Groundwater Modelling Report prepared for EDF NNB GenCo](#) , January 2020. (Atkins, 2020b);
- UK EPR Sizewell: Geological cross sections. Document number: SZC-EDTEGG-AU-000RET-000120 (EDF NNB GenCo., 2014); and
- Technical Note: Water Quality and Flow Baseline. revision 1.0 Draft Issue. Ref. SZC-EW0921-ATK-XX-000-XXXXXX-REP-CLE-9000001 (Atkins, September 2023) (n.b. this Technical Note is included within the CWDA application);
- Drawing 5213850-SNC-MR-XX-DDRW-H-000612, Permanent bridge haul and bridge general arrangement sheet 2. (Atkins, 2022); and
- Drawing 5213850-SNC-MR-XX-DDRW-H-000614, Permanent bridge haul and bridge general arrangement sheet 1. (Atkins, 2023)

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## 2. Dewatering Requirements

AtkinsRéalis were asked to estimate likely water ingress from the footprint and sidewalls of a sheet piled cofferdam which will be installed to facilitate the construction of bridge pile caps associated with north and south wing walls for SSSI crossing bridge. The pile caps are situated within the north and south wing walls. The sheet piles also provide an environmental barrier, protecting the SSSI from the lateral movement of any potential contamination (typically pH resulting from the construction of concrete piles/pile caps). The dewatering will enable a safe working environment to be maintained during pile cap construction. Figure 2-1 and Figure 2-2 show the general arrangement of the coffer dam and pile caps, and shows the approximate location of the coffer dams in relation to the SSSI and Leiston Drain.

This report aims to determine how much water will need to be pumped out of the excavation, the amount of potential draw down water. The north wing walls are modelled here as the Crag is more prevalent meaning maximum dewatering volumes will be calculated as well as maximum drawdown outside of the cofferdam.

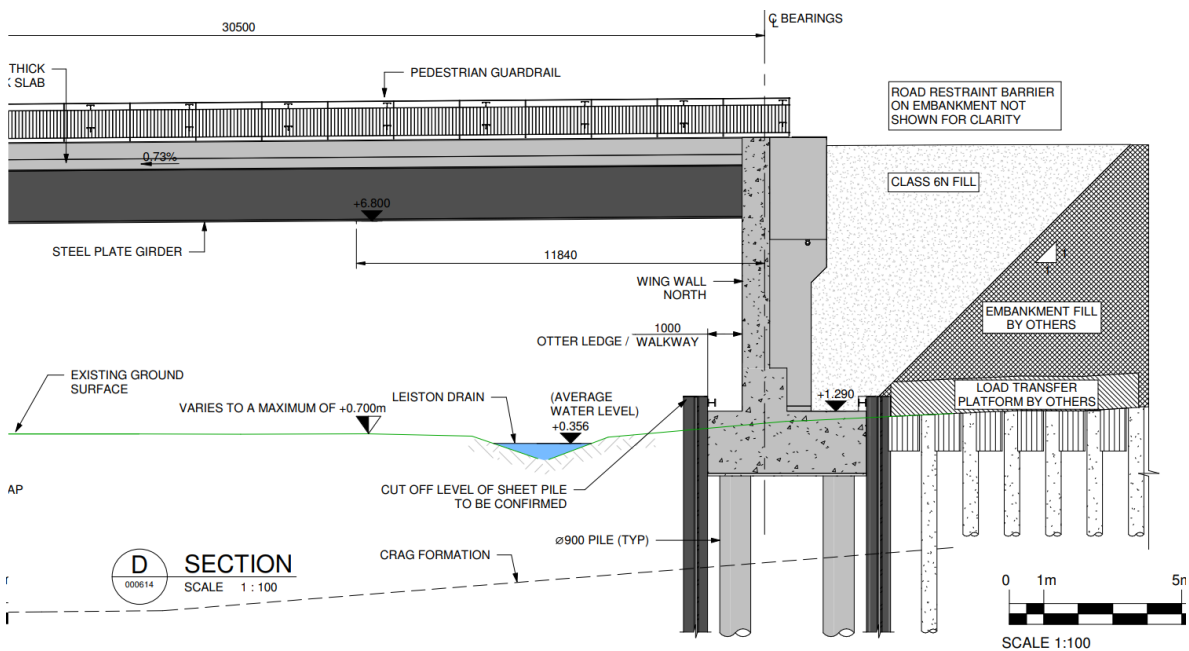


Figure 2-1 - Excerpt of Outline Design Drawing showing the sheet piles and pile cap (Atkins, 2022)

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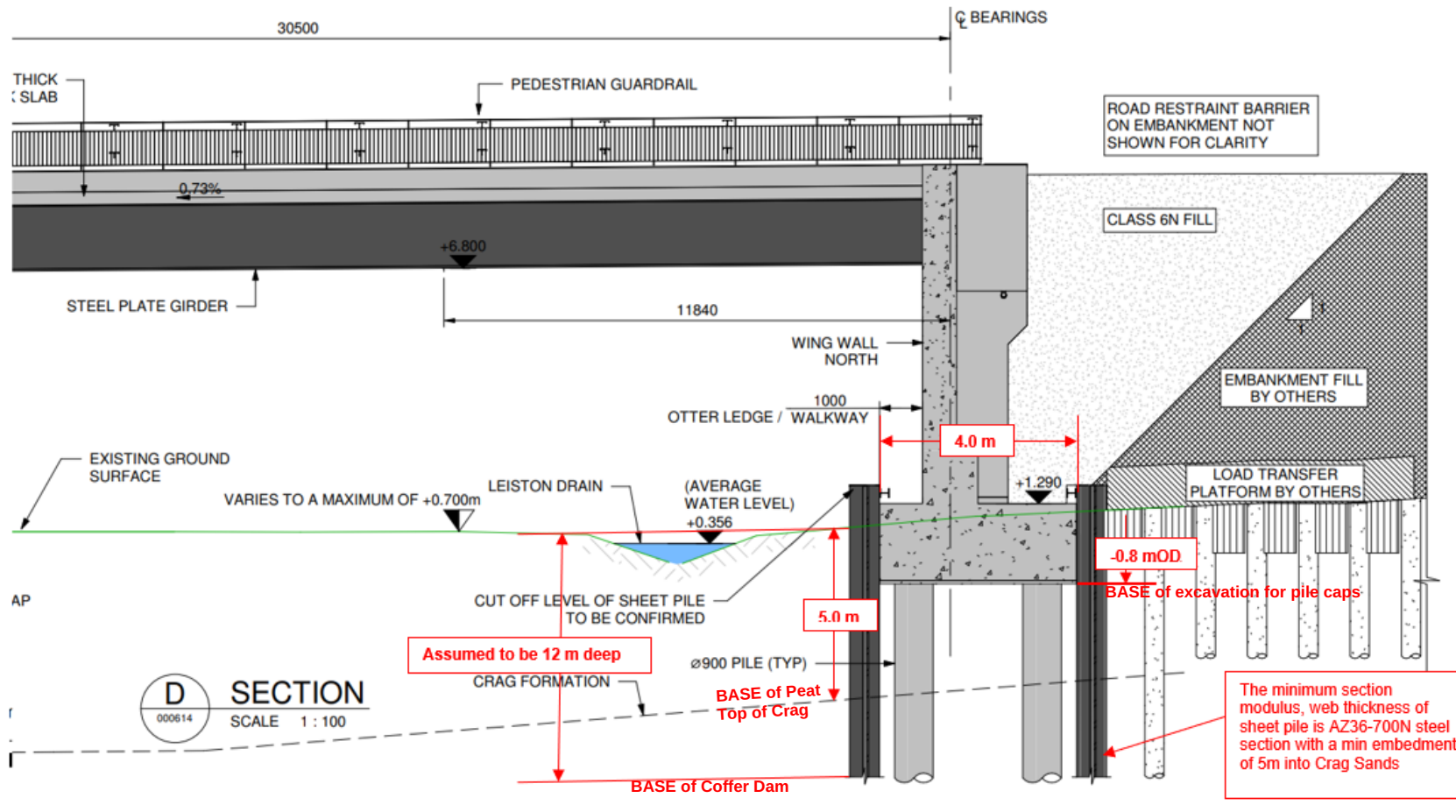


Figure 2-2 - Design Geometry

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## 2.1. Construction Sequence

The construction methodology for the works required at the SSSI crossing is yet to be fully determined. Upon completion of the detailed design phase the construction sequence will be better understood. The dewatering volume calculations detailed on section 3 assume the following about the construction sequence:

- Northern and southern pile caps will be constructed concurrently;
- Construction dewatering period will be 70 days (1 day per m);
- Dewatering of the excavations may be undertaken 24/7;
- Pile cap will be excavated in 5 m long strips.

These assumptions have been agreed with the design teams as providing a conservative estimate of the *worst credible* daily dewatering volumes.

## 2.2. Discharge Arrangements

The detailed design of discharge arrangements are yet to be finalised. It is likely however that the groundwater expected to be encountered is of a coastal and estuarine nature and may therefore require treatment before being discharged into the Leiston Drain (inland freshwater body). To ensure the dewatering is monitored throughout the works the flow rate will be measured and logged at the beginning and end of each shift. An agreed standard of water quality is yet to be agreed with the Environment Agency, but once this is established (for example as set out in permitting requirements), testing in accordance with regulatory requirements (e.g., monitoring method and frequency) will be undertaken.

Discussion with the consents and construction team during detailed design will enable the selection of the appropriate option.

The works will be undertaken with a view to minimising the total amount of dewatering and risk of pollution. It is proposed that:

- The sheet piled cofferdam is used as permanent work form;
- The length of exposed excavation open at any one time will be minimised as far as reasonably practicable; and
- Furthermore, the sheet pile length has been optimised with the structural design requirements so that the amount of dewatering associated with the installation of the SSSI crossing is minimised as far as possible.

Flow control will be limited by the selected pump rate, no further flow controls at the outfall are proposed.

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## 3. Environmental Setting

### 3.1. Site Location

The location of the proposed SSSI crossing is within the DCO Redline boundary encompassing the development site as illustrated in Figure 1-1. Located north of the existing Sizewell B power station and the proposed Sizewell C location, the SSSI crossing will provide a link between the Temporary Construction Area (TCA) and Main Construction Area (MCA) of the SZC site.

### 3.2. Geology

The regional geology of Sizewell C itself predominantly comprises Made Ground and Superficial Deposits containing Peat/ Alluvium over the bedrock including Crag Group and London Clay (and other Palaeogene deposits of the London basin) and Chalk Group ([page 24, table 2.1](#) of (Atkins, 2020b)).

Local to the proposed SSSI bridge crossing site, the Crag outcrops in the north of the crossing, as shown in borehole BDG01A whose log is included in Appendix B. The Crag is proven to a depth of >40 m in BDG01A, and is shown to approximately 44 m to the top of the underlying London Clay in geological sections ([page 29, plate 2.4](#) of (Atkins, 2020b; EDF NNB GenCo., 2014)). Peat deposits are present towards the south of the proposed SSSI bridge crossing area and have an average thickness of 3 to 4 m across large areas of the wider Sizewell C site but increase in thickness to approximately 8 to 10 m in the Sizewell Marshes SSSI (adjacent to the proposed SSSI bridge crossing area) ([page 27, section 2.5.6](#) of (Atkins, 2020b)). The peat extends to approximately seven meters below ground level (m bgl) in the vicinity of the SSSI bridge crossing area ([page 29, plate 2.4](#) of (Atkins, 2020b)).

### 3.3. Hydrogeology

The Environment Agency classifies the Crag Group as a Principal Aquifer. The aquifer is hydraulically separated from Chalk by the presence of the London Clay formation (unproductive stratum). The Peat is classified as unproductive stratum but has ecological importance associated with the Sizewell Marshes SSSI.

Contours produced using observed groundwater levels from boreholes screened within the Crag aquifer suggest that the groundwater level within the vicinity of the SSSI crossing area range between 0.3 – 0.8 meters above ordnance datum (m AOD). Water levels from boreholes screened within the Peat suggest that groundwater level ranges between 0.23 to 0.75 m AOD in this area. The groundwater model produced by Atkins (Atkins, 2020b) indicates that the head of water within the Crag can be increased up to 2 m AOD during the operational period of proposed power plant. The model suggests that changes in head with depth in the Crag aquifer are limited with changes in head of 10 cm over 20+ m depth. Borehole BDGA1, located in the vicinity of the SSSI crossing site and screened within the Crag aquifer had an average groundwater level of 0.36 m AOD. A water level of 0.36 m AOD was taken forward and used in the model.

Hydraulic head of Crag groundwater is slightly higher than those in the Peat, therefore it is considered that there is potential for groundwater within the Crag to migrate upwards into the Peat. No tidal variation is observed in the Peat unlike the Crag and therefore there is some hydraulic separation between these aquifers. This is considered to be due to the low vertical hydraulic conductivity of the Peat.

Leiston Drain is present within the SSSI crossing site. It has been reported (Atkins, 2020b) that drains in Sizewell Marsh are in hydraulic continuity with underlying groundwater, providing local recharge to the Sizewell Marshes SSSI and the Minsmere-Walberswick Heaths and Marshes SSSI during high water level conditions. It is assumed that Leiston Drain is in continuity with the underlying groundwater within Peat and Crag.

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Hydraulic conductivity of the Crag was found to be within 0.02 to 37 metres/day (m/d) based on rising and falling head tests ([page 32, table 2.3](#) of (Atkins, 2020b)). The hydraulic conductivity of the Peat was found to range between 0.009 to 17 m/d. In the 2020 model a hydraulic conductivity of 0.2 m/d ( $2.0 \times 10^{-6}$  m/s) was used for the Peat and 30 m/d ( $3.54 \times 10^{-4}$  m/s) for the Crag as described in the 2020 SZC modelling report ([page 57, plate 3.3](#) of (Atkins, 2020b)).

### 3.4. Groundwater Quality Baseline

Between 2020 and 2022 Atkins collected groundwater samples from a series of monitoring wells installed at the Main Development Site (MDS) of Sizewell C, including 38 locations within the MCA and TCA areas (that the SSSI crossing site lies between) (Atkins Ltd, 09 January 2023). The groundwater samples were scheduled for analysis at a UKAS accredited laboratory for a range of inorganic and organic determinands, including chloride, ammonium, nitrate, dissolved metals / metalloids, total petroleum hydrocarbons (TPH), phenol, benzene, toluene, ethylbenzene and xylene (BTEX), speciated polycyclic aromatic hydrocarbons (sPAH), volatile organic compounds (VOCs) and semi volatile organic compounds (SVOCs).

The Atkins 2022 monitoring report (Atkins Ltd, 09 January 2023) found that there were elevated contaminants of concern including inorganics, metals/ metalloids, TPH and PAHs recorded in the groundwater samples tested underlying the MCA and parts of the TCA of Sizewell C. This area is subject to significant saline intrusion that is likely to have contributed to the concentrations of inorganic contaminants being reported within the groundwater and may also be affected by the underlying geology, adjacent marshes and farming activities.

The monitoring report undertook an assessment of risk from the contaminated groundwater to primary controlled waters receptors identified (underlying principal Crag aquifer and surface watercourses within the SSSI). The risk was considered to be low to moderate/low risk. However, elevated concentrations of organic contaminants have been identified in groundwater during some monitoring rounds across the MCA and TCA and the source of the contaminants is unknown at this time.

Locally, quality results have been obtained for five boreholes (C3S, C3D, C4S, C4D and P10) which are in the vicinity of the SSSI bridge crossing. The boreholes are screened in the superficial deposits (C3S and C4S), the Crag (C3D and C4D) and the Peat (P10) with information of their locations and response zones summarised in

Table 3-1 and the borehole logs have been included in Appendix A. The location of the selected boreholes is presented in Figure 3-1, along with the approximate location of the coffer dams and the outfall.

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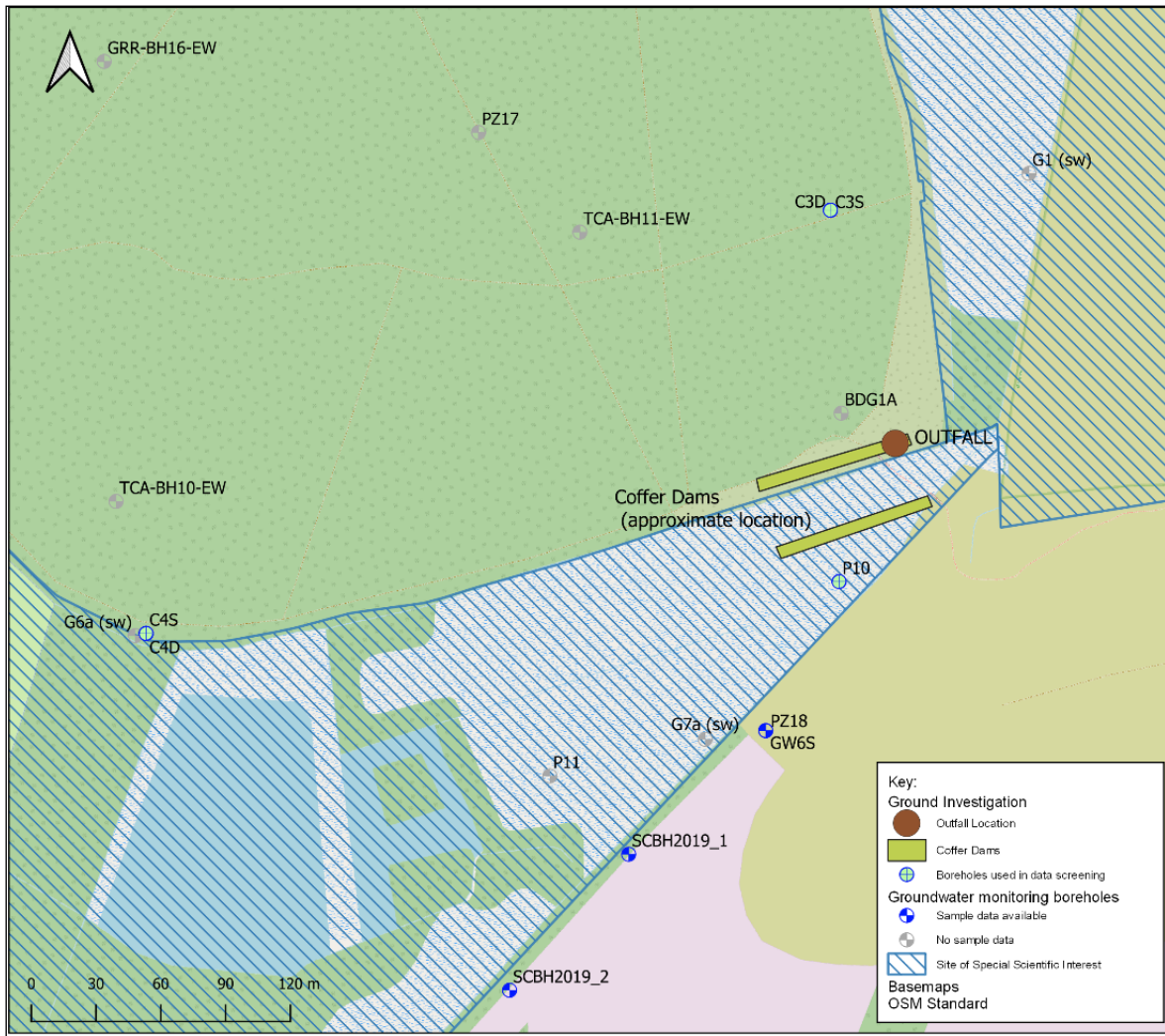


Figure 3-1 Layout plan of coffer dams and monitoring boreholes

Table 3-1 - Summary of borehole information

Well ID	Screened Stratum	Level	Easting	Northing	Response Zone (AOD)	Samples Recovered
C3S	Superficial Deposits	2.77	647319	264638	0.77 to -4.23	4
C4S		1.42	647001	264442	-0.58 to -4.58	4
C3D	Crag	2.77	647320	264639	-8.63 to -18.43	4
C4D		1.42	647001	264442	-11.98 to -22.08	3
P10	Peat	0.54	647323	264466	0.04 to -1.02	1

The boreholes have been monitored on up to four occasions between 2020-2022 and the results have been compared against the relevant freshwater Environment Quality Standards (EQS) to assess potential impact to sensitive receptors. This initial screening compares the relevant water standard with each of the sample results and highlights any exceedances. Relevant EQS values are the lowest freshwater EQS value presented in Water Framework Directive (Standards and

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Classification) Directions (Secretary of State, 2015), or operational EQS values included within Environment Agency guidance (Environment Agency, 2022). The lowest EQS is generally the Annual Average EQS (AA-EQS), except where contaminants have a Maximum Allowable Concentration EQS (MAC-EQS) but no AA-EQS. A screening value for nitrite, which does not have an EQS in either (Secretary of State, 2015) or (Environment Agency, 2022), is derived from non statutory guideline value for Salmonid waters presented in the Surface Waters (Fishlife) Directions 2010. For total petroleum hydrocarbon tests, which have no EQS values, a conservative initial screening value is adopted based on the AA-EQS for benzene.

Prior to screening, surface water data for the Leiston Drain has been processed through the Environment Agency WFD Metal Bioavailability Assessment tool (M-BAT) (Water Framework Directive - United Kingdom Technical Advisory Group (WFD-UKTAG), 2014) to derive Predicted No Effect Concentrations (PNEC) for copper, lead, nickel, manganese and zinc. The average values from the baseline surface water dataset (included in Appendix E) were used for pH and calcium with a median value adopted for dissolved organic carbon was used to give an assessment of the annual average bioavailable EQS to be used in the screening exercise, in line with the guidance (Water Framework Directive – United Kingdom Technical Advisory Group , 2014). the M-BAT assessment and PNECs are presented in Appendix B. The EQS value for cadmium has been adjusted based on average surface water hardness as per Water Framework Directive (Standards and Classification) Directions (Secretary of State, 2015).

A summary of exceedances is presented in Table 3-2. The screening sheets have been included within Appendix C. The laboratory results are included as Appendix D.

The screening results show elevated concentrations when compared to the screening criteria of inorganics and metals. The elevated concentrations of observed determinands within the three boreholes, especially chloride, ammonium and sodium are likely to be influenced by saline intrusion and may also be affected by the underlying geology, adjacent marshes and farming activities. While exceedances of EQS were identified, all determinands were within one order of magnitude of the screening criteria, except for manganese and nitrite.

Based on the above results, the risk to sensitive receptors is considered to be low from the dewatering discharge. However as specific substances and pollutants are present a surface water pollution screening assessment is required, and this has been completed as detailed section 5. Additionally it is recommended to undertake quality analysis for the water dewatered to validate the risk level prior to discharge.

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**Table 3-2 - Summary of exceedances (2020-2022)**

Constituent	Unit	LOD	EQS* (mg/l)	No. of Samples	Min. Value	Max. Value	No. of Exceedances	Locations of Exceedances
Chloride	mg/l	1.0	250	16	26	2100	6	C3S, 44145; C3s, 44329; C4D, 44334; C3S, 44516; C4D, 44516; P10, 44735
Ammonium	mg/l	0.050	0.26	16	<0.05	1.3	6	C3s, 44329; C4D, 44516; C3S, 44735; P10, 44735; C4S, 44740; C4D, 44740
Ammoniacal Nitrogen	mg/l	0.050	0.6	16	<0.05	1.4	2	C4S, 44740; C4D, 44740
Nitrite	mg/l	0.020	0.01	16	<0.02	0.34	6	C3S, 44145; C3S, 44735; C3D, 44735; P10, 44735; C4S, 44740; C4D, 44740
Phosphorus (Dissolved)	mg/l	0.020	0.008	16	<0.02	0.11	10	C3S, 44145; C3D, 44145; C4S, 44146; C3s, 44329; C3d, 44329; C4S, 44334; C4D, 44334; C3D, 44516; C4S, 44516; C3D, 44735
Cadmium (Dissolved)	mg/l	8x10 <sup>-5</sup>	0.00025	16	<0.00008	0.00084	6	C3s, 44329; C3S, 44735; C3D, 44735; P10, 44735; C4S, 44740; C4D, 44740
Iron (Dissolved)	mg/l	0.02	1	16	<0.005	1.3	1	C4D, 44516
Manganese (Dissolved)	mg/l	0.001	0.21	16	<0.001	14	4	C3s, 44329; C3S, 44516; C3S, 44735; P10, 44735
Nickel (Dissolved)	mg/l	0.001	0.017	16	<0.0005	0.031	3	C3s, 44329; C4S, 44334; C4D, 44334
Low-Level Chromium	mg/l	0.0001	0.0034	11	<0.0001	0.0053	2	C3s, 44329; C4S, 44334

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(Hexavalent) (Dissolved)								
Chromium (Trivalent) (Dissolved)	mg/l	0.001	0.0047	12	<0.001	0.068	6	C3d, 44329; C4S, 44334; C4D, 44334; C3S, 44735; C4S, 44740; C4D, 44740

\*Where determinants have both an AA EQD and MAC EQS the more conservative value has been adopted for the purposes of the screening exercise

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# 4. Dewatering Volume Assessment

## 4.1. Modelling Approach

AtkinsRéalis was asked to estimate likely water ingress from the footprint and sidewalls of a sheet piled cofferdam which will be installed to facilitate the construction of bridge pile caps associated with north and south wing walls for SSSI crossing bridge.

The groundwater flow modelling package SEEP/W (Seequent, 2022) was used to simulate groundwater flow into the pile cap excavation via leakage through and flow under the coffer dam walls.

The pile caps are situated within the north and south wing walls. The north wing wall was modelled as here Crag is more prevalent meaning maximum dewatering volumes will be calculated.

## 4.2. Conceptual Overview and Input Parameters

A hydrogeological conceptual site model (CSM) has been developed for the site of the excavation required for installation of the north wing wall and surrounding area. This model has been developed to help inform the methodology for the prediction of dewatering volumes, including determination of appropriate hydrogeological parameters and boundary conditions. The information used to inform the CSM has been derived from the dewatering requirements presented in section and the environmental setting presented in section

The CSM is displayed in Figure 4-1 and the preliminary input parameters are detailed in Table 4-1.

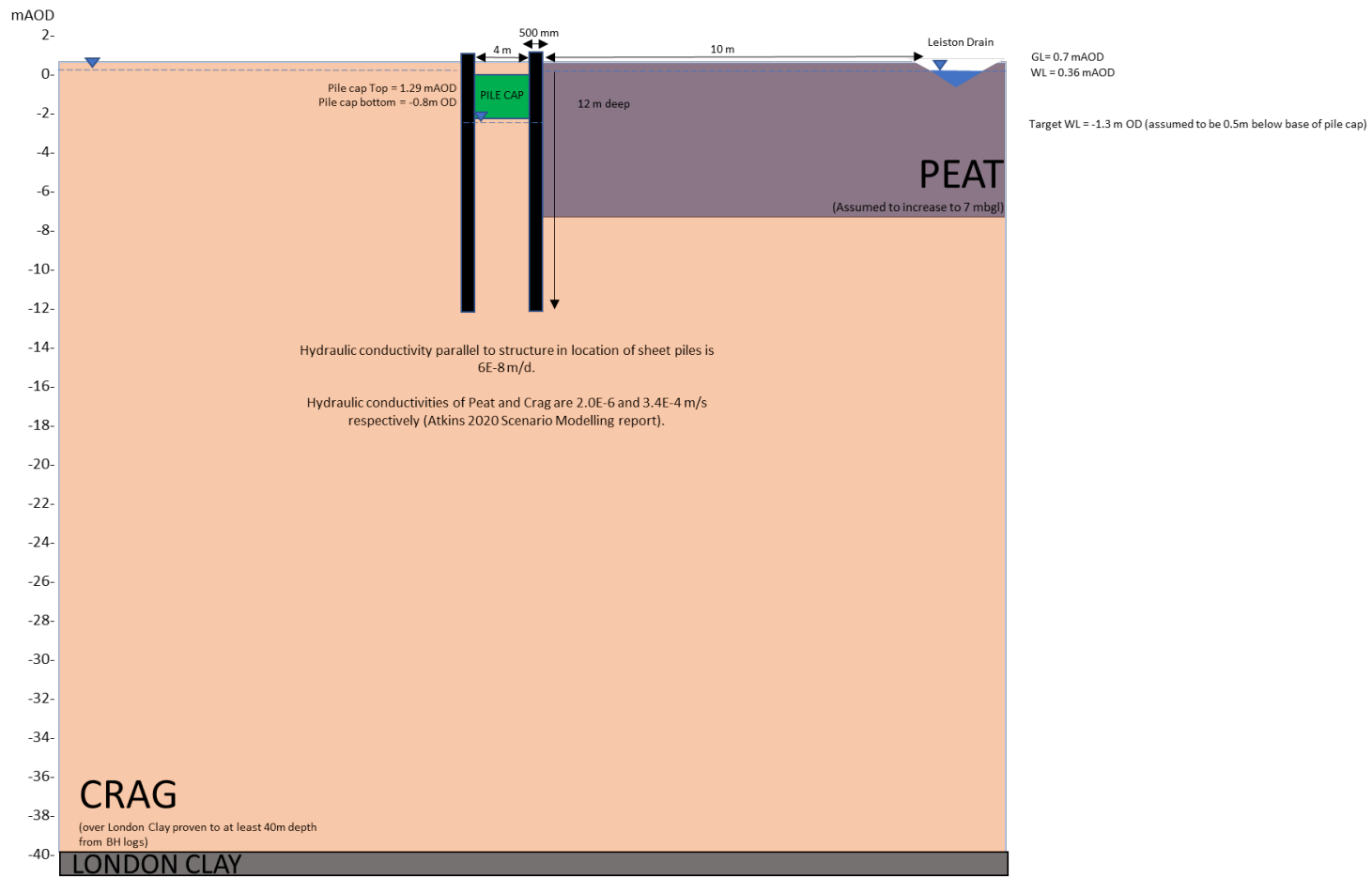


Figure 4-1 - Conceptual site model of north wing wall

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**Table 4-1 - Input parameters**

Parameter	Value	Reference
<b>Cofferdam information</b>		
Length	70 m	AtkinsRéalís design team
Width	4 m	AtkinsRéalís design team
<b>Pile information</b>		
Sheet pile thickness	500 mm Note this is the width of each sheet pile.	AtkinsRéalís design team
Distance between sheet piles	4 m	(Atkins, 2022)
Sheet pile depth	12 m	(Atkins, 2022)
Elevation of pile cap top	1.29 m AOD	(Atkins, 2022)
Elevation of pile cap bottom	2 m from top of pile cap	AtkinsRéalís design team
<b>Ground and groundwater levels</b>		
Ground level	0.7 m AOD	(Atkins, 2022)
Groundwater level	0.36 m AOD	(Atkins, 2022)
Target water level after dewatering	0.5 m from base of pile cap (-1.3 m AOD)	AtkinsRéalís design team
<b>Unit thickness</b>		
Peat depth and thickness	7 m bgl	(Atkins, 2020b) (EDF NNB GenCo., 2014)
Crag depth and thickness	At least 40 m bgl	(Atkins, 2020b) (EDF NNB GenCo., 2014)
<b>Hydraulic Conductivity</b>		
Peat	$2.0 \times 10^{-6}$ m/s	(Atkins, 2020b)
Crag	$3.54 \times 10^{-4}$ m/s	(Atkins, 2020b)
Sheet piles	$3.5 \times 10^{-11}$ m/s	(Arcelor Mittal, 2015) The hydraulic conductivity of sheet piles has been scaled up to $3.5 \times 10^{-11}$ m/s considering its width (500 mm) and metal thickness (10 mm).
<b>Volumetric Water Content (maximum)</b>		
Peat	0.25	(Atkins, 2020b)
Crag	0.1	(Atkins, 2020b)
Sheet piles	$1 \times 10^{-04}$	(Atkins, 2020b)

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### 4.3. Model Set Up

The two-dimensional model domain used for the assessment undertaken in Seep/W (Seequent, 2022) was conceptualised as a cross section orientated on an approximate north-west to south-east orientation. The vertical model domain extends to a maximum of 0.7 m AOD where the ground level has been assumed and extends down to -40 m AOD. The model has been extended laterally 10 m either side of the proposed sheet piles and is bound by the Leiston Drain in the east. The drain is represented as a constant head boundary condition. It is assumed that during dewatering the water level within the drain will remain constant. The groundwater model (Atkins, 2020b) suggests that head within the Crag remains mostly consistent with depth therefore it is considered that the constant head boundary is appropriate. Based on the provided information it is assumed that a local excavation will extend to -2.5 m AOD and will be 4 m wide. An element thickness of 70 m was set within the model to represent the length of the cofferdam. The extent of the model can be seen in Figure 4-2.

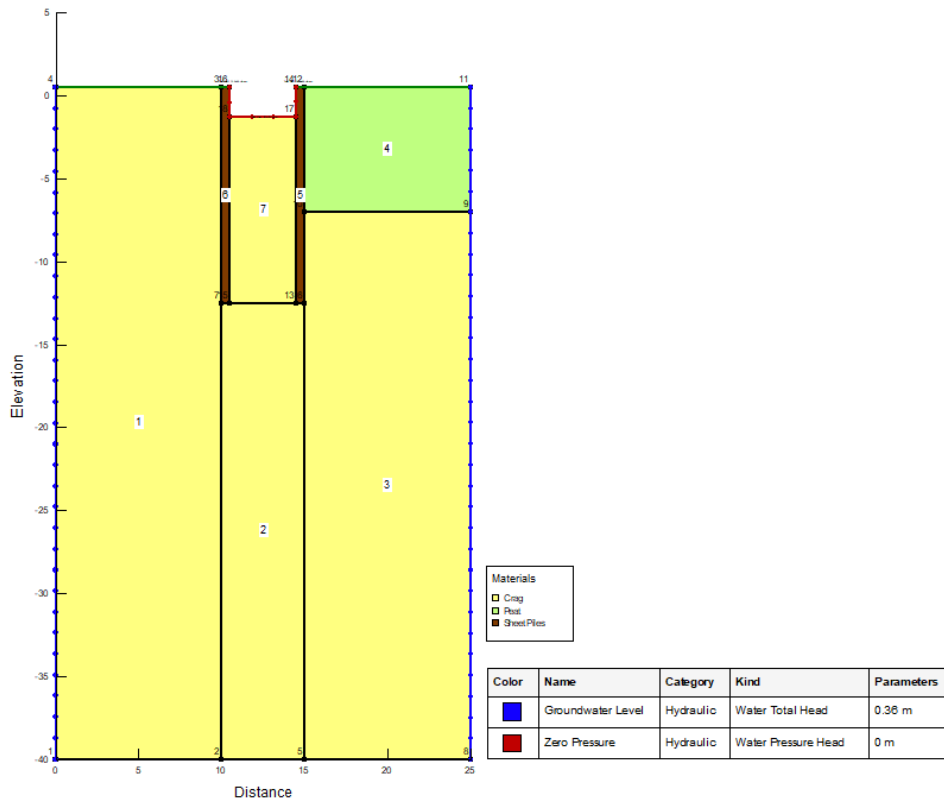


Figure 4-2 - Seepage model of north wing wall

A constant head boundary of 0.36 m AOD was set to the lateral extents of the model, this was based on the level within Leiston Drain. The lateral boundary was set 10 m in either direction of the sheet piles – this is the distance depicted between the pile and the middle of the drain in the drawings package. No infiltration in the ground through precipitation has been considered in this model and no boundary condition was applied to ground level in this model.

The excavation was modelled with a zero-pressure boundary on the base and internal side walls of the excavation and specified as a potential seepage face. To determine calculated inflow into an excavation, calculated water rate across each node of the seepage face was summed to obtain a water flow rate for the whole excavation area.

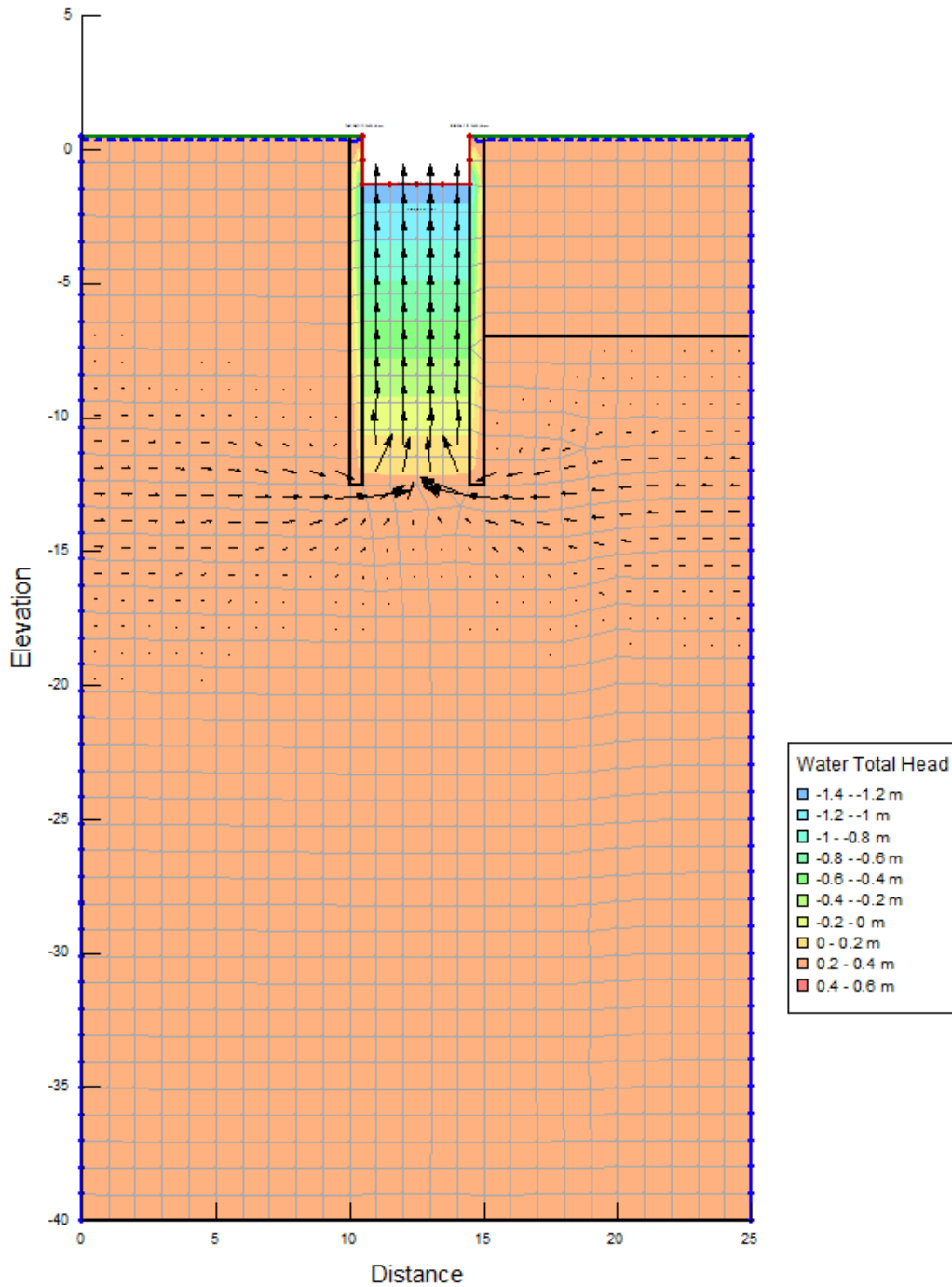
### 4.4. Model Results

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A steady state model was run using Seep/W to give an idea of potential flow rates into the excavation through the bottom in the peat and through the excavation walls through the sheet piles.

The model indicates that the majority of the groundwater will flow into the Cofferdam from underneath the base of the pile walls at a level of approximately 12 m AOD from the Crag Formation. Early dewatering will also take more limited amounts of groundwater from the shallower aquifer associated with the Crag and Superficial Deposits.

Figure 4-3 shows the resulting flow vectors through each material and Figure 4-4 shows the individual flow out of each node into the excavation.



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Figure 4-3 - Model results: flow vectors and water head

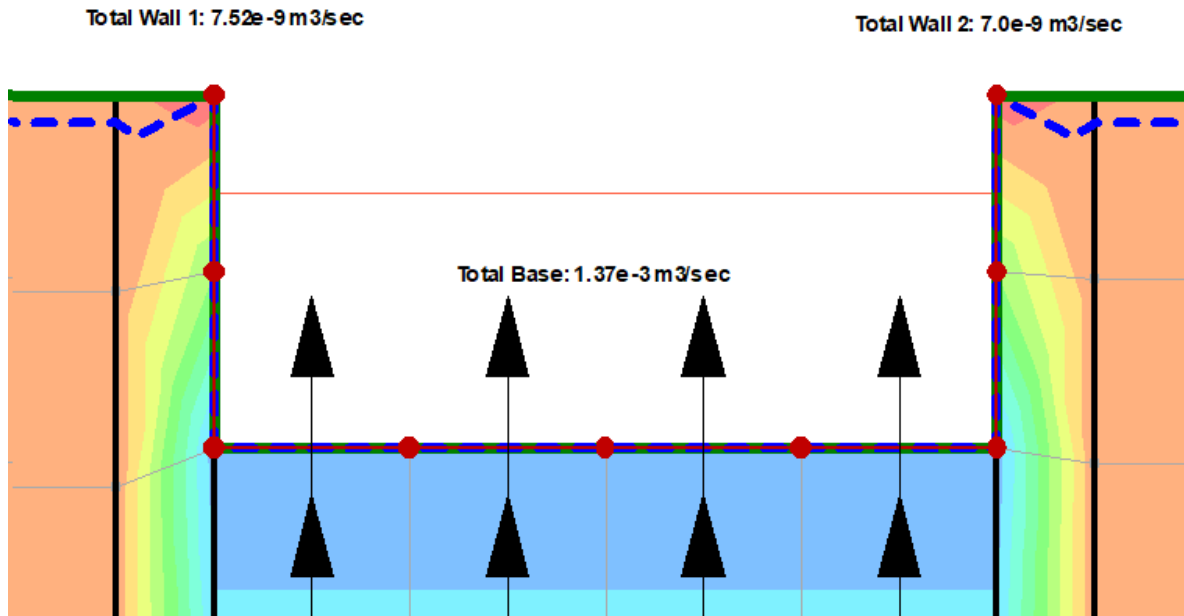


Figure 4-4 - Flow into the excavation

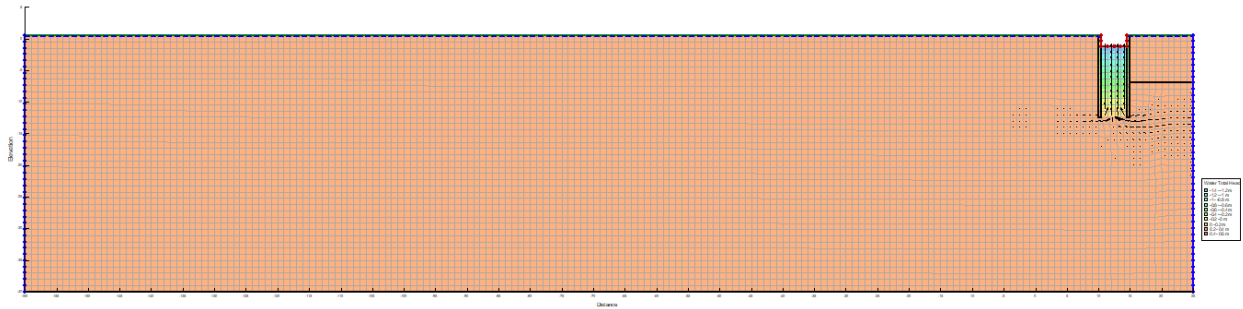
A steady flow rate of  $1.37 \times 10^{-3} \text{ m}^3/\text{s}$  was calculated through the base of the excavation and a rate of  $14.52 \times 10^{-9} \text{ m}^3/\text{s}$  through the walls of sheet piles. This totals an amount of  $1.37 \times 10^{-3} \text{ m}^3/\text{s}$  flow rate into the excavation through the base and walls overall.

The drawdowns were observed to be less than one millimetre (mm) on both sides of the excavation. However, these observed drawdowns will be limited by the size of model domain, particularly distance to northern boundary where fixed head boundary condition was applied. As such, a sensitivity was undertaken by increasing this distance in Section 4.5.

#### 4.5. Sensitivity Analysis on size of model domain

The SEEP/W model was amended and the fixed head boundary condition applied on the north side of the excavation was moved away from the excavation edge by 160 m, which is an approximate radius of influence calculated based on CIRIA guidance C750 (Preene, Roberts, & Powrie, 2016) for this required drawdown of dewatering (without sheet pile wall). The boundary condition on the south side of the excavation representing the Leiston Drain remained at 10 m from the excavation edge. Both north and south boundary conditions were set to 0.36 m representing the groundwater level. The rest of the model input parameters remained the same. This model also assumed that surface water level will remain constant and will not change during the dewatering. The model set up is presented in Figure 4-5.

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**Figure 4-5 - Model set up for amended model domain**

The result of this exercise indicates that a total flow rate of  $1.35 \times 10^{-03} \text{ m}^3/\text{s}$  through the excavation base and walls has been calculated using the SEEP/W model when the boundary condition on the northern site of the excavation is moved to a distance of 160 m from the excavation edge. The flow rate into the excavation is very similar to the original model scenario rate which was calculated to be  $1.37 \times 10^{-03} \text{ m}^3/\text{s}$ .

A drawdown of 38 mm was calculated north of the excavation and less than 1 mm south of the excavation. This is an increase of over 37 mm in the north of the excavation compared to the original model.

#### 4.6. Sensitivity Analysis on hydraulic conductivity of Crag

The hydraulic conductivity of the Crag in the model was taken from the groundwater model used for the SZC DCO Submission (Atkins, 2020b). A model scenario was run with a high hydraulic conductivity of  $7.08 \times 10^{-04} \text{ m/s}$  (60 m/d) which is double the hydraulic conductivity applied in the original model.

This resulted in increased flows through the base of the excavation and a doubling in flow overall (base and walls) to  $2.74 \times 10^{-03} \text{ m}^3/\text{s}$  compared to the original scenario. A drawdown of <1 mm was observed either side of the excavation.

#### 4.7. Sensitivity Analysis on groundwater level

The baseline groundwater level for the model was set to 0.36 m AOD, based on an average water level in the vicinity of the SSSI Bridge Crossing site area. The model's sensitivity to the baseline groundwater level was tested by increasing the water level to 1.5 m AOD as indicated by observed and modelled groundwater level data.

The results are presented in below in Figure 10. The groundwater level is above the modelled ground level suggesting there will be periods of flooding in the SSSI crossing area. An increase in groundwater level resulted in an increase in flow through both the base and sides of the excavation to  $2.31 \times 10^{-03} \text{ m}^3/\text{s}$ , a 69% increase in flows overall from the baseline scenario.

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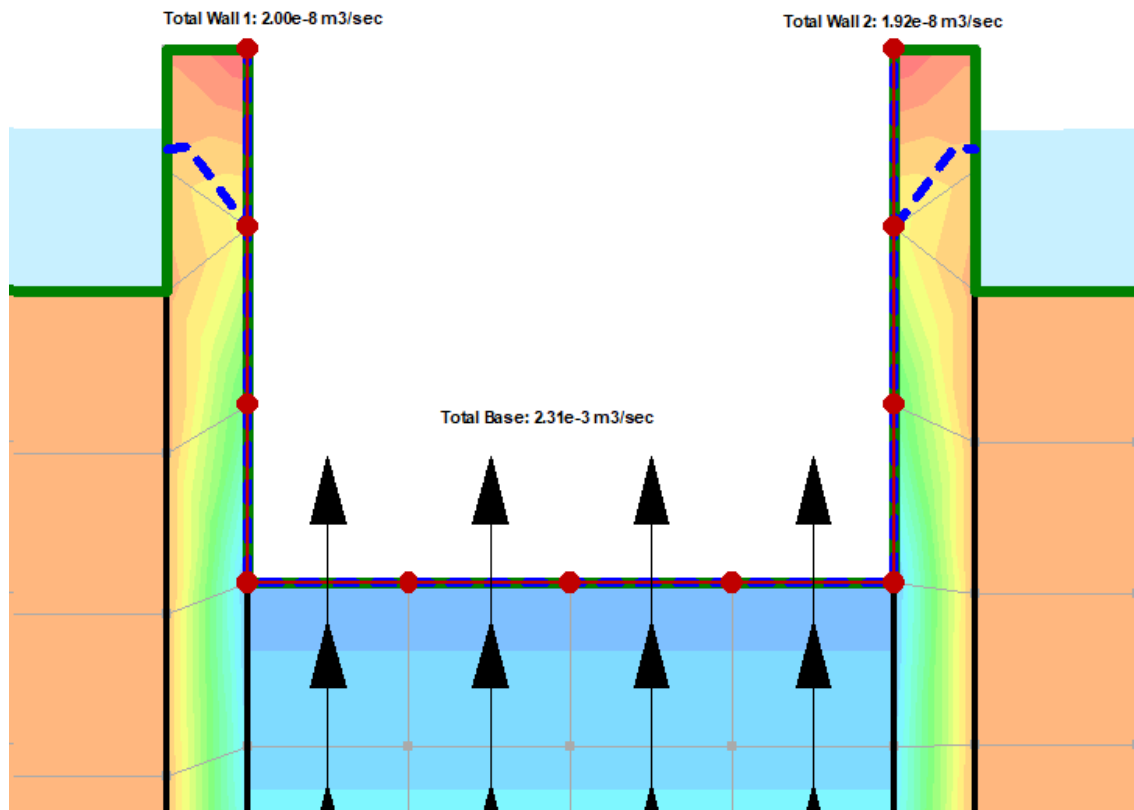


Figure 4-6 - Flow into excavation and drawdown with increased baseline groundwater level

#### 4.8. Summary

A summary of SEEP/W model results is presented in Table 4-2. It can be seen that a flow rate of  $1.37 \times 10^{-03} \text{ m}^3/\text{s}$  through the excavation base and walls has been calculated for the baseline model. Sensitivity analysis indicates that the flow rate can be increased up to  $2.74 \times 10^{-03} \text{ m}^3/\text{s}$  and the drawdown can be up to 4 cm in north side of the excavation for north walls.

The dewatering assessment undertaken has been based on the construction of excavated structures and has assumed worst case conditions to ensure conservatism within the modelling. There is a possibility that minor amendments to the design may occur in the future at which point the dewatering assessment undertaken may need to be revised though such amendments are considered unlikely to be significant. Further detailed modelling, for example using three-dimensional modelling approaches would allow for further optimisation of any proposed dewatering approach as well as consideration of mitigation measures.

The total volume of water to be pumped out is directly related to the duration that the excavation is open. The duration of excavation has been estimated as 1 day per metre length of pile cap construction. Assuming that the pile cap will be cast in 3 m lengths at a time, the total volume of water to be pumped out per day will be:

$$1 \text{ day} = 86400 \text{ s.}$$

$$2.74 \times 10^{-3} \text{ m}^3/\text{s} \times 86400 \text{ s} = 237 \text{ m}^3/\text{day.}$$

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Assuming both abutments are progressed simultaneously, the worst credible total volume of discharge per day = 237 m<sup>3</sup>/day x 2No. abutments = 473 m<sup>3</sup>/day. This assumes that the dewatering of one abutment has no impact on inflow rates to the other abutment, which is considered a reasonable, conservative assumption given that the model output indicates negligible drawdown outside of the coffer dams.

There are risks that the construction method chosen later in the design phase, will be different than that assumed above. At this stage a risk factor of 1.1 is considered appropriate and should be added to the daily volume value to accommodate minor changes to construction methodology.

For the purposes of applying for a dewatering permit. The proposal is that a daily volume of 521 m<sup>3</sup> (approximately 473 m<sup>3</sup> x 1.1) would be a conservative value to request. The mean flow rate is 521 m<sup>3</sup>/day / 86400 s/day = 0.00603 m<sup>3</sup>/s. A worst case maximum flow rate would be 100 Litres per second (0.1 m<sup>3</sup>/s), which would allow for clearance pumping to be carried out intermittently.

**Table 4-2 - Summary of sensitivity analysis results**

Scenario		Flow (m <sup>3</sup> /sec)				Drawdown (m)	
		Northern side	Southern side	Base	Total	Northern side	Southern side
1	Baseline	7.52 x 10 <sup>-09</sup>	1.30 x 10 <sup>-08</sup>	1.37 x 10 <sup>-03</sup>	1.37 x 10 <sup>-03</sup>	<0.001	<0.001
2	Distance to northern boundary of model – increased to 160 m from sheet piles of dewatering cofferdam	7.16 x 10 <sup>-09</sup>	7.00 x 10 <sup>-09</sup>	1.35 x 10 <sup>-03</sup>	1.35 x 10 <sup>-03</sup>	0.04	<0.001
3	Crag hydraulic conductivity - increased to 6.94x10 <sup>-04</sup> m/s (60 m/d)	7.52 x 10 <sup>-09</sup>	7.00 x 10 <sup>-09</sup>	2.74 x 10 <sup>-03</sup>	2.74 x 10 <sup>-03</sup>	<0.001	<0.001
4	Specified head boundary condition - increased to 1.5 m AOD	2.00 x 10 <sup>-08</sup>	1.92 x 10 <sup>-08</sup>	2.31 x 10 <sup>-03</sup>	2.31 x 10 <sup>-03</sup>	<0.001	<0.001

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# 5. Surface Water Pollution (H1) Risk Assessment

## 5.1. Approach

Screening tests have been undertaken in accordance with the latest GOV.UK guidance for surface water pollution risk assessments (Environment Agency, 2022) as it is being proposed to discharge groundwater from the SSSI crossing to surface water, the Leiston Drain. Specifically, the screening assessment has been carried out to:

- Assess the feasibility of discharging dewatered groundwater into the Leiston Drain;
- Assess the need for treatment of the groundwater prior to discharge due to the presence of specific substances including chromium (III) and (VI), iron, cadmium, copper, nickel and lead;
- Identify whether further modelling is required to be undertaken in accordance with the GOV.UK requirements for completing a surface water pollution risk assessment (as the planned discharge is being made to freshwater).

The assessment will be carried out in accordance with Environment Agency (EA) guidance Surface water pollution risk assessment for your environmental permit (Environment Agency, 2022) and more detailed supporting EA internal guidance, "Permitting of hazardous chemicals and elements in discharged to surface waters" (H1 Risk Assessment) (Environment Agency, December 2019).

The steps detailed in the guidance consist of:

- Phase 1: Screening, which follows three stages to screen out substances to identify if there are any pollutants at concentrations that could cause pollution; and
- Phase 2 Modelling, which is a more detailed assessment of those substances that may be significant. The Environment Agency will normally carry out this modelling for discharges to freshwater.

This report details the screening tests undertaken to ascertain whether more detailed modelling is required.

## 5.2. Flow data for the receiving watercourse

The Leiston Drain is classified as a Main River and a Water Framework Directive (WFD) designated waterbody (GB105035046271 - Leiston Beck) (Environment Agency, 2021). Furthermore it is located within Sizewell Marshes SSSI, upstream of the proposed crossing and in Minsmere-Walberswick Heaths and Marshes SSSI downstream of the crossing.

The surface water screening assessment requires Q95 (low flow) flow rate data for the receiving watercourse. If the screening assessment indicates a potentially significant impact in surface water quality, a surface water modelling assessment will be required. The modelling requires flow rate summary statistics such as mean and standard deviation or percentiles.

The EA has supplied a Q95 value to use in the assessment of 0.0258 m<sup>3</sup>/s. Correspondence related to this is included in Appendix A.1.

## 5.3. Surface Water Screening

### 5.3.1. Methodology

The groundwater quality data presented in section 3.4 and included in Appendix C was used to represent the quality of the discharge in the screening assessment. This includes a total of 16 groundwater samples analysed for a range of inorganic and organic determinands.

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Upstream background surface water quality data is taken from samples collected from upstream monitoring points G3, G4, G5, G6A and G7A between 2020 and 2022. The data are reported in (Atkins, September 2023) and are included in Appendix E.

All substances that have been measured above the laboratory limit of detection (LOD) in groundwater were run through screening. In addition, substances that were not detected in groundwater above the LOD, but where the LOD is greater than 10% of the EQS, were also included in the screening assessment. The likelihood of these substances being present in the discharge is discussed on completion of screening, and those substances not considered to be present in groundwater will be discounted.

Prior to screening, surface water data for the Leiston Drain has been processed through the Environment Agency WFD Metal Bioavailability Assessment tool (M-BAT) (Water Framework Directive - United Kingdom Technical Advisory Group (WFD-UKTAG), 2014) to derive Predicted No Effect Concentrations (PNEC) for copper, lead, nickel, manganese and zinc. The average values from the baseline surface water dataset (included in Appendix E) were used for pH and calcium with a median value adopted for dissolved organic carbon was used to give an assessment of the annual average bioavailable EQS to be used in the screening exercise, in line with the guidance (Water Framework Directive – United Kingdom Technical Advisory Group, 2014). The M-BAT assessment and PNECs are presented in Appendix B. The EQS value for cadmium has been adjusted based on average surface water hardness as per Water Framework Directive (Standards and Classification) Directions (Secretary of State, 2015).

The surface water screening assessment was undertaken using the methodology for phase 1: screening for freshwaters given in EA guidance (Environment Agency, December 2019). Part A of the screening comprises four tests to screen out substances that are not liable to cause pollution to the discharged surface water body. Any substance that fails a test is not screened out and is therefore considered liable to cause pollution.

A summary of the four Phase 1 Part A tests is provided below:

- Test 1 assesses if the concentration of a substance in discharge exceeds 10% of the EQS for the respective substance.
- Test 2 assesses whether the Process Contribution (PC) exceeds 4% of the respective EQS. PC is the concentration of a discharged substance in the receiving water after dilution.
- Test 3 calculates the Predicted Environmental Concentration (PEC), which is the combination of PC and the mean upstream background concentration (BC). The difference between BC and the PEC is screened against 10% of the respective EQS.
- Test 4 screens the PEC for each substance against EQS Annual Average (AA) and EQS Maximum Allowable Concentration (MAC), where available.

Any substance that fails Test 3 or Test 4 is considered liable to potentially cause pollution when discharged into the receiving surface water body. EQS values used in the screening tests are the freshwater EQSs presented in the GOV.UK specific substances surface water pollution risk assessment guidance (Environment Agency, 2022).

Following Part A, Part B of the Phase 1 screening comprises the significant load test, which applies to any Priority Hazardous Substances in the discharge.

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### 5.3.2. Results

The data input to the screening and the full screening assessment for all substances is presented in Appendix F.

Out of the 208 analysed substances, 157 do not have an EQS value, a further 22 substances were screened out at pre-screening stage where they were not detected and the LOD was sufficiently low. AtkinsRéalís notes that nitrite and phosphorous are not included in the H1 guidance as substances with EQS values that require screening, however these have been included in the assessment utilising a non-statutory criteria for nitrite and a Water Framework Directive derived criteria for phosphorous (developed in baseline report).

Nine substances were screened out at tests 1 and 2 so a total of 20 substances (which failed tests 1 and 2) were taken forward to tests 3 and 4. Of those substances, four substances passed Tests 3 and 4 and are not liable to cause pollution.

Seven of the remaining substances which failed one of Test 3 or 4 have not been detected above LOD in any of the groundwater samples. They were included in the screening tests because the LOD is greater than the EQS. This group includes free cyanide, hexavalent chromium and five organic compounds. These substances are not considered likely to be present in baseline groundwater and are therefore not considered further.

Nine remaining substances were determined as potentially liable to cause pollution in the receiving surface water body, as they are both measured in the discharge and fail one of tests 3 or 4. A summary of the substances and result of tests 3 and 4 is shown in Table 5-1. The results of the screening are discussed in further detail in Section 5.3.3.

Part B of the phase 1 screening for freshwaters comprises the significant load test, which applies to any Priority Hazardous Substances in the discharge. Substances in groundwater to which a significant load limit applies comprise cadmium, anthracene, hexachlorobenzene, hexachlorobutadiene, mercury, benzo[a]pyrene and the sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, indeno(1,2,3cd)pyrene. None of the substances included in the screening were recorded as significant on the basis of the Part B significant load test.

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**Table 5-1 – Substances which fail screening tests 3 or 4, and are therefore liable to cause pollution.**

Constituents All units mg/l	Limit of Detection (LOD)	Freshwater EQS (Annual Average)	Freshwater EQS (Maximum Allowable Concentration)	detections above LOD in groundwater discharge	RC: Mean discharge release concentration (values below LOD treated as LOD)	BC: Mean Upstream Concentration (values below LOD treated as LOD) mg/l	Test 3			Test 4	
							Predicted Environmental Concentration (AA-PEC) (mg/l)	AA Test 3 failed?	MAC Test 3 failed?	AA test 4 failed? (AA PEC above AA EQS)	MAC test 4 failed? (MAC-PEC)
Cadmium (Dissolved)	0.00008	0.00025	0.0015	7	0.00028	0.00011	0.00014	Yes	No	No	No
Chloride	1	250	N/A	16	351	108.14	154	Yes	N/A	No	N/A
Manganese (Dissolved)	0.001	0.211*	N/A	15	1.18	0.18	0.37	Yes	N/A	Yes	N/A
Nickel (Dissolved)	0.001	0.017*	0.034	12	0.0074	0.0025	0.0035	No	Yes	No	No
Dissolved Chromium (Trivalent)	0.001	0.0047	0.032	9	0.013	0.015	0.014	No	Yes	Yes	Yes
Ammoniacal Nitrogen	0.05	0.47	N/A	12	0.2829	2.95	2.45	No	N/A	Yes	N/A
Nitrite	0.02*	0.01	N/A	6	0.0696	0.32	0.28	No	N/A	Yes	N/A
Phosphorus (Dissolved)	0.02*	0.008	N/A	10	0.0533	0.1	0.1	No	N/A	Yes	N/A
Ammonium	0.05	0.6	N/A	14	0.2748	3.29	2.72	No	N/A	Yes	N/A

**Notes:** RC is lower than BC for both average and maximum values, showing that the discharge is not expected to impact surface water quality for these substances.

\* PNECs developed for substances with a bioavailable EQS.

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### 5.3.3. Discussion

As shown in Table 5-1, a total of four substances – ammonium, ammoniacal nitrogen, nitrite and phosphorus - failed the screening tests due to a high mean concentration identified in upstream water samples, with the background concentration (BC) exceeding the EQS. For all four of these the release concentration (RC) is lower than the BC showing that the discharge is not expected to impact surface water quality for these substances.

The concentrations of cadmium, nickel, chloride, manganese and trivalent chromium in the discharge is considered to be liable to cause pollution in the Leiston Drain. These substances are elevated in the discharge compared to background upstream surface water quality and failed test 3 of the Part A screening tests (trivalent chromium fails only on the MAC test 3, not the AA). Manganese and trivalent chromium are the only of these which additionally fail test 4, although in the case of trivalent chromium the average background concentration is above the EQS and the average release concentration is lower than the BC.

The mean groundwater concentration of manganese was elevated due to a peak concentration of 14 mg/l identified on one occasion only. This potential outlier was removed from the data set and an additional screening exercise was undertaken, however, the tests indicated manganese was still liable to cause pollution.

All five substances are expected to occur naturally in groundwater, and the potential impact in the Leiston Drain is considered mild for the following reasons:

- chloride is considered to be elevated in groundwater due to the effects of saline intrusion, and is already elevated in surface waters further downstream of the discharge: samples from downstream monitoring location G8, which is on the Leiston Drain approximately 1 km north of the SSSI crossing at grid reference 647603, 265627, indicate chloride concentrations between 200 and 350 mg/l (Atkins, September 2023);
- measured cadmium, manganese, nickel and trivalent chromium concentrations in groundwater are considered the same as the natural background levels in the Crag aquifer, based on published values (Ander, Shand, & Wood, 2006). Manganese is considered likely to oxidise and precipitate fairly quickly after mixing with oxygenated surface waters.

It is recommended Phase 2 modelling is undertaken, in accordance with the guidance (Environment Agency, December 2019) to assess the pollution risk to the Leiston Drain associated with cadmium, nickel, chloride, manganese and trivalent chromium in the dewatered groundwater. This will be used to inform whether treatment of the discharge is necessary and if so, the acceptable limit to treat to.

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## 6. Summary and Conclusion

### 6.1. Dewatering volume

The groundwater flow modelling package SEEP/W (Seequent, 2022) was used to simulate groundwater flow into the pile cap excavations within sheet piled cofferdams which will be installed to facilitate the construction of bridge pile caps associated with north and south wing walls for SSSI crossing bridge.

The model outputs indicate negligible drawdown of groundwater levels in the Crag and Peat aquifers immediately outside the coffer dam, when water levels are drawn down to the required level of -1.3 m OD.

The model outputs indicate a worst credible total groundwater inflow volume to the excavation of 237 m<sup>3</sup>/day.

The model indicates that the majority of the groundwater will flow into the Cofferdam comes from underneath the base of the pile walls at a level of approximately 12 m AOD from the Crag Formation. Early dewatering will also take more limited amounts of groundwater from the shallower aquifer associated with the Crag and Superficial Deposits.

There are risks that the construction method chosen later in the design phase, will be different than that assumed above. At this stage a risk factor of 1.1 is considered appropriate and should be added to the daily volume value to accommodate minor changes to construction methodology.

For the purposes of applying for a dewatering permit. The proposal is that a daily volume of 521 m<sup>3</sup> is used. This allows for dewatering of both north and south wing walls at the same time and adds factor of safety of 1.1 to accommodate minor changes to construction methodology.

The discharge mean flow rate is  $521 \text{ m}^3/\text{day} / 86400 \text{ s/day} = 0.00603 \text{ m}^3/\text{s}$ . A worst case maximum flow rate would be 100 Litres per second ( $0.1 \text{ m}^3/\text{s}$ ), which would allow for clearance pumping to be carried out intermittently.

### 6.2. H1 Assessment

Surface water pollution risk assessment screening tests have been carried out to assess the impact of discharging the dewatered groundwater to the Leiston Drain.

The Phase 1 screening tests indicated that the concentration of cadmium, nickel, chloride, manganese and trivalent chromium in discharge is liable to cause pollution in the Leiston Drain. All five substances are expected to occur naturally in groundwater and surface water, and the potential impact in the Leiston Drain is considered mild. Manganese is considered likely to oxidise and precipitate fairly quickly after mixing with oxygenated surface waters.

Part B of the Phase 1 screening for freshwaters comprises a significant load test which applies to any Priority Hazardous Substances in the discharge. The assessment indicated no priority substance tested for in the discharge constitutes a significant load.

It is recommended Phase 2 modelling is undertaken, in accordance with the guidance (Environment Agency, December 2019) to assess the pollution risk to the Leiston Drain associated with cadmium, nickel, chloride, manganese and trivalent chromium in dewatered groundwater. This will be used to inform whether treatment of the discharge is necessary and if so, the acceptable limit to treat to.

It is recommended to undertake quality analysis for the water dewatered to validate the risk level prior to discharge. The completed Phase 2 modelling will inform the magnitude of the risk of pollution, and may be used to inform the basis of parameters and frequency for monitoring.

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## 7. References

- AMEC. (2012). *UK EPR Sizewell C. Sizewell C Hydrogeological Monitoring, Synthesis Report. Report No 29816/C/017/A.*
- Ander, E. L., Shand, P., & Wood, S. (2006). *BGS/EA Baseline Report Series: 21. The Chalk and Crag of north Norfolk and the Waveney Catchment.* Retrieved from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/290921/scho0207blys-e-e.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290921/scho0207blys-e-e.pdf)
- Arcelor Mittal. (2015). *Steel Foundation Solutions, General Catalogue.*
- Atkins. (2020b). *Sizewell C Groundwater Modelling Report prepared for EDF NNB GenCo , January 2020.*
- Atkins. (2022). *Drawing 5213850-SNC-MR-XX-DDRW-H-000612, Permanent bridge haul and bridge general arrangement sheet 2.*
- Atkins. (2023). *Drawing 5213850-SNC-MR-XX-DDRW-H-000614, Permanent bridge haul and bridge general arrangement sheet 1.*
- Atkins Ltd. (09 January 2023). *SZC-EW0411-ATK-XX-000-XXXXXX-REP-CIV-000010: Groundwater Monitoring Report between 2020-2022.*
- Atkins. (September 2023). *SZC-EW0921-ATK-XX-000-XXXXXX-REP-CLE-9000001: Technical Note: Water Quality and Flow Baseline. Revision 1.0 Draft Issue.*
- EDF NNB GenCo. (2014). *UK EPR Sizewell: Geological cross sections. Document number: SZC-EDTEGG-AU-000RET-000120. .*
- Environment Agency. (2021). *Catchment Data Explorer - Leiston Drain Water Body.* Retrieved September 18, 2023
- Environment Agency. (2022, 02 22). *Surface water pollution risk assessment for your environmental permit (Freshwaters priority hazardous substances, priority substances and other pollutants environmental quality standards).* Retrieved 03 20, 2023, from <https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit>
- Environment Agency. (December 2019). *Permitting of hazardous chemicals and elements [LIT 13134].*
- Preene, M., Roberts, T. O., & Powrie, W. (2016). *CIRIA C750. Groundwater control: design and practice, second edition.*
- Secretary of State. (2015). *The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.* Retrieved October 2023, from [https://www.legislation.gov.uk/ukxi/2015/1623/pdfs/ukxi0d\\_20151623\\_en\\_auto.pdf](https://www.legislation.gov.uk/ukxi/2015/1623/pdfs/ukxi0d_20151623_en_auto.pdf)
- Seequent. (2022). *GeoStudio 2022.1.* <https://www.geoslope.com/>.
- Structural Soils. (n.d.). *Factual report on 1st Phase Ground Investigation on SZC Construction Site Area and Associated Development. SZC-NNBPCP-XX-000-REP-000014. .*
- Water Framework Directive – United Kingdom Technical Advisory Group . (2014, July). *UKTAG River & Lake Assessment Method, Specific Pollutants (Metals), Metal Bioavailability Assessment Tool (M-BAT).* Retrieved from <https://www.wfduk.org/sites/default/files/Media/Environmental%20standards/MBAT%20UKTAG%20Method%20Statement.pdf>
- Water Framework Directive - United Kingdom Technical Advisory Group (WFD-UKTAG). (2014). *Rivers & Lakes - Metal Bioavailability Assessment Tool (M-BAT).* (WFD-UKTAG) Retrieved 10 26, 2022, from <https://www.wfduk.org/sites/default/files/Media/Environmental%20standards/MBAT%20UKTAG%20Method%20Statement.pdf>

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# Appendix A. Supporting Information

## A.1. Regulatory Correspondence

## Wilkins, Timothy

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**From:** Enquiries\_EastAnglia <Enquiries\_EastAnglia@environment-agency.gov.uk>  
**Sent:** 24 October 2023 10:56  
**To:** Wilkins, Timothy  
**Subject:** Q95 flow data for the Leiston Beck River near Sizewell in Suffolk - Our ref: EAn/2023/329322

Dear Tim

Thank you for your enquiry of 26 September 2023.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

Please use 0.0258 m<sup>3</sup>/s as Q95 for Leiston Beck River near Sizewell in Suffolk, at the Grid Reference 647311, 264509.

Please refer to the Open Government Licence available here <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/> which explains the permitted use of this information.

Please get in touch if you have any further queries or contact us within two months if you would like us to review the information we have sent.

Regards  
Teresa

Teresa Chapman  
Customers & Engagement Officer, Customers & Engagement Team,  
**Environment Agency** East Anglia Area

Email: [enquiries\\_eastanglia@environment-agency.gov.uk](mailto:enquiries_eastanglia@environment-agency.gov.uk)  
Internal: 55472  
External: 02030 255472



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## Appendix B. Borehole logs

# Borehole Log

Borehole No.

**BH C3S**

Sheet 1 of 1

Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647319E - 264638N	Hole Type CP
Location: Sizewell		Level: 2.80	Scale 1:50
Client: NNB GenCo		Dates:	Logged By JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.05	2.75		Dark brown loamic TOPSOIL with leaf litter and tree roots. Topsoil	
					0.50	2.30		Loose mid brown / coffee brown fine and medium SAND with tree roots. SD_ALV_S	
	▼							Loose orange and light brown slightly silty fine and medium SAND with rare fine tree roots to 0.60m and rare subangular to subrounded medium and coarse flint, chert and quartz to 3.00m. 1.70-2.30 m Clayey bands. 3.20 m 10cm band of soft dark red / brown, light grey and orange mottled sandy clay. 4.20 m 5cm band of soft dark orange, brown and light grey laminated very sandy clay. SD_ALV_S	1 2 3 4 5 6
					7.00	-4.20		End of Borehole at 7.00m	7 8 9 10

Remarks



# Borehole Log

Borehole No.

**BH C3D**

Sheet 1 of 3

Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647320E - 264639N	Hole Type CP
Location: Sizewell		Level: 2.77	Scale 1:50
Client: NNB GenCo		Dates:	Logged By JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.05	2.72		Dark brown loamic TOPSOIL with leaf litter and tree roots. Topsoil	
					0.50	2.27		Loose mid brown / coffee brown fine and medium SAND with tree roots. SD_ALV_S	
	▼							Loose orange and light brown slightly silty fine and medium SAND with rare fine tree roots to 0.60m and rare subangular to subrounded medium and coarse flint, chert and quartz to 3.00m. 1.70-2.30 m clayey bands. 3.20 m 100mm band of soft dark red/brown light grey and orange mottled sandy clay. 4.20 m 50mm band of soft dark orange brown and light grey laminated very sandy clay. SD_ALV_S	1 2 3 4 5 6 7 8
					9.00	-6.23		Mid brown silty fine and medium SAND. 9.00 m 50mm band of soft dark orange brown and light grey laminated very sandy clay. NCG	9 10
								Continued on Next Sheet	

Remarks



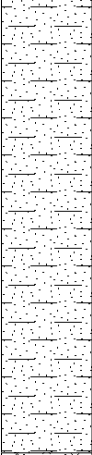
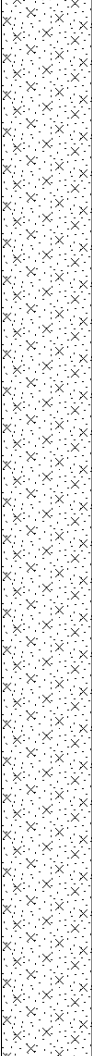
## Borehole Log

Borehole No.

**BH C3D**

Sheet 2 of 3

Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647320E - 264639N	Hole Type CP
Location: Sizewell		Level: 2.77	Scale 1:50
Client: NNB GenCo		Dates:	Logged By JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					13.00	-10.23		Mid brown silty fine and medium SAND. 9.00 m 50mm band of soft darkorange brown and light grey laminated very sandy clay. NCG	11
								Mid brown/dark red silty fine to medium SAND with fine shell fragments and rare fine flint gravel. NCG	12
					20.00	-17.23			13
									14
									15
									16
									17
									18
									19
									20

Continued on Next Sheet

Remarks



## Borehole Log

Borehole No.

**BH C3D**

Sheet 3 of 3

Project Name: Sizewell C Enabling Works

Project No.  
5190666

Co-ords: 647320E - 264639N

Hole Type  
CP

Location: Sizewell

Level: 2.77

Scale  
1:50

Client: NNB GenCo

Dates:

Logged By  
JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					24.00	-21.23	Light grey medium to coarse SAND with frequent shell fragments. RCG		21 22 23 24 25 26 27 28 29 30
End of Borehole at 24.00m									

Remarks



# Borehole Log

Borehole No.

**BH C4D**

Sheet 1 of 3

Project Name: Sizewell C Enabling Works

Project No.  
5190666

Co-ords: 647001E - 264442N

Hole Type  
CP

Location: Sizewell

Level: 1.42

Scale  
1:50

Client: NNB GenCo

Dates:

Logged By  
JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.05	1.37		Dark brown TOPSOIL with rootlets. Topsoil	
					0.60	0.82		Loose brown orange fine to medium SAND with rare medium subangular to subrounded flint gravel. SD_ALV_S	1
					1.40	0.02		Light brown, cream and yellow/orange fine to medium SAND. Damp. Dark greymottled inclusions - weakly cemented. SD_ALV_S	
	▼				1.60	-0.18		Soft brown and light grey mottled sandy slightly gravelly peaty silty CLAY. Gravel is medium and coarse subangular to subrounded of quartz and flint. Rare black organic pockets - organic odour. SD_ALV_C	2
					2.00	-0.58		Orange brown silty fine and medium SAND with frequent clayey pockets SD_ALV_S	
					2.20	-0.78		Firm orange light brown and light grey laminated sandy CLAY. SD_ALV_C	
								Orange brown silty fine to medium SAND with frequent clayey pockets. NCG	3
									4
									5
					6.00	-4.58		Orange brown very silty fine to medium SAND. NCG	6
									7
									8
					9.00	-7.58		Brown slightly silty slightly clayey fine and medium SAND with fine subangular ferrous nodules weakly cemented. NCG	9
					10.00	-8.58			10

Continued on Next Sheet

Remarks





# Borehole Log

Borehole No.

**BH C4D**

Sheet 2 of 3

Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647001E - 264442N	Hole Type CP
Location: Sizewell		Level: 1.42	Scale 1:50
Client: NNB GenCo		Dates:	Logged By JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
							Brown slightly silty fine and medium SAND with fine rare subangular ferrous nodules weakly cemented and frequent fine shell fragments. 15.00 m darkbrown/red hard cemented and laminated nodule - ferrous? NCG		
								11	
								12	
								13	
								14	
								15	
								16	
								17	
								18	
								19	
				20.00	-18.58		20		

Continued on Next Sheet

Remarks



## Borehole Log

Borehole No.

**BH C4D**

Sheet 3 of 3

Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647001E - 264442N	Hole Type CP
Location: Sizewell		Level: 1.42	Scale 1:50
Client: NNB GenCo		Dates:	Logged By JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
							Brown fine to coarse SAND with fine to medium off white and red shell fragments and rare fine subrounded flint gravel. RCG	21	
					22.00	-20.58	Brown grey fine to coarse SAND with fine white and red shell fragments and frequent fine to coarse light grey bladed mudstone gravel. RCG	22	
					23.50	-22.08	End of Borehole at 23.50m	23	
								24	
								25	
								26	
								27	
								28	
								29	
								30	

Remarks



# Borehole Log

Borehole No.

**BH C4S**

Sheet 1 of 1

Project Name: Sizewell C Enabling Works

Project No.  
5190666

Co-ords: 647002E - 264442N

Hole Type  
CP

Location: Sizewell

Level: 1.42

Scale  
1:50

Client: NNB GenCo

Dates:

Logged By  
JG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.05	1.37		Dark brown TOPSOIL with rootlets. Topsoil	
					0.60	0.82		Loose brown orange fine to medium SAND with rare medium subangular to subrounded flint gravel. SD_ALV_S	
					1.40	0.02		Light brown, cream and yellow/orange fine to medium SAND. Damp. Dark greymottled inclusions - weakly cemented. SD_ALV_S	1
	▼				1.60	-0.18		Soft brown and light grey mottled sandy slightly gravelly peaty silty CLAY. Gravel is medium and coarse subangular to subrounded of quartz and flint. Rare black organic pockets - organic odour. SD_ALV_C	2
					2.00	-0.58		Orange brown silty fine and medium SAND with frequent clayey pockets SD_ALV_S	
					2.20	-0.78		Firm orange light brown and light grey laminated sandy CLAY. SD_ALV_C	
								Orange brown silty fine to medium SAND with frequent clayey pockets. NCG	3
									4
									5
					6.00	-4.58		End of Borehole at 6.00m	6
									7
									8
									9
									10

Remarks



**ATKINS**

Member of the SNC-Lavalin Group

# Borehole Log

Borehole No.

**P10**

Sheet 1 of 1

Project Name: Sizewell C Enabling Works

Project No.  
5190666

Co-ords: 647323E - 264466N

Hole Type  
BH

Location: Sizewell


Level: 0.54

Scale  
1:50

Client: NNB GenCo

Dates: 01/01/2013

Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					1.56	-1.02	 PEAT. PEAT	End of Borehole at 1.56m	1 2 3 4 5 6 7 8 9 10

Remarks



Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647324E - 264544N	Hole Type CP
Location: Sizewell		Level: 1.68	Scale 1:50
Client: NNB GenCo		Dates: 10/03/2014	Logged By SHaynes

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	D						
		0.10 - 0.60	B				Brown to orangish brown slightly gravelly fine to medium SAND. Gravel is subrounded fine to medium quartzite and flint. Rootlets and bark <20mm in diameter. SD_ALV_S		
		0.80	D		0.80	0.88			
		0.80 - 1.20	B				Yellow medium SAND interbedded with soft brown very sandy laminated CLAY. Laminae are thin brown, orange and grey sandy clay. SD_ALV_S	1	
		1.20 - 1.65	B						
		1.20 - 1.65	D						
		1.20	SPT	N=8					
		2.00 - 2.45	B						
		2.00 - 2.45	D						
		2.00	SPT	N=12	2.50	-0.82			2
		3.00 - 3.45	B						
		3.00 - 3.45	D						
		3.00	SPT	N=12			Medium dense orangish buff slightly gravelly medium to coarse SAND. Gravel is angular and tabular coarse brown mudstone. SD_ALV_S <i>At 3.00m, thin lamination of soft brown clay 3mm.</i>	3	
		4.00 - 4.45	B						
		4.00 - 4.45	D						
		4.00	SPT	N=12			<i>At 4.00m, thin lamination of soft brown clay 4mm-5mm.</i>	4	
		5.00 - 5.45	B						
		5.00 - 5.45	D						
		5.00	SPT	N=12	5.50	-3.82			5
		6.00	D						
		6.00 - 6.45	B						
		6.00	SPT	N=14			Medium dense brown to reddish brown slightly gravelly coarse SAND with thin laminations of dark red and brown cemented sand and mudstone. Gravel is angular fine shell fragments and tabular brown mudstone. NCG	6	
		7.00	D						
		7.50 - 7.95	B						
		7.50	SPT	N=14					
		8.00	D						
		9.00	D						
		9.00 - 9.45	B						
		9.00	SPT	N=16			<i>Below 9.00m, shell fragments become fine to coarse and include whole shell &lt;15mm.</i>	9	
		10.00	D						10

Continued on Next Sheet

**Remarks**

1. Inspection pit hand dug to 1.20m. 2. Groundwater struck at 1.30m, rising to 1.20m after 20 minutes. 3. Blowing sand from 19.00m. 4. Water and polymer added to assist drilling.



Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647324E - 264544N	Hole Type CP
Location: Sizewell		Level: 1.68	Scale 1:50
Client: NNB GenCo		Dates: 10/03/2014	Logged By SHaynes

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.50 - 10.95 10.50	B SPT	N=16			Medium dense brown to reddish brown slightly gravelly coarse SAND with thin laminations of dark red and brown cemented sand and mudstone. Gravel is angular fine shell fragments and tabular brown mudstone. NCG	11	
		11.00	D						
		12.00 12.00 - 12.45 12.00	D B SPT	N=18			At 12.00m, thin lamination of soft grey clay 3mm-4mm .	12	
		13.00	D					13	
		13.50 - 13.95 13.50	B SPT	N=34			Below 13.50m, becomes dense.		
		14.00	D				Below 14.00m, becomes gravelly and redish brown in colour.	14	
		15.00 15.00 - 15.45 15.00	D B SPT	N=42				15	
		16.00	D					16	
		16.50 - 16.95 16.50	B SPT	N=83*					
		17.00	D				At 17.00m, thin lamination of greenish grey sandy clay 4mm.	17	
		18.00 18.00 - 18.35 18.00	D B SPT	N=79*	18.00	-16.32	Dense brown to bluish grey slightly gravelly to gravelly to coarse SAND with occasional thick laminations of weak grey siltstone <15mm . Gravel is angular fine flint and shell fragments. RCG	18	
		19.00	D					19	
		19.50 - 20.00	B						
		20.00	D					20	

Continued on Next Sheet

**Remarks**

1. Inspection pit hand dug to 1.20m. 2. Groundwater struck at 1.30m, rising to 1.20m after 20 minutes. 3. Blowing sand from 19.00m. 4. Water and polymer added to assist drilling.



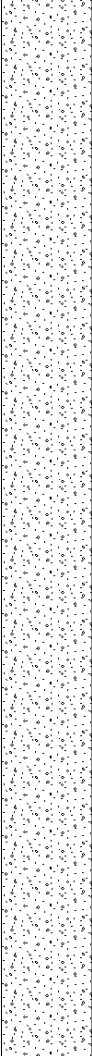
## Borehole Log

Borehole No.

**BDG01A**

Sheet 3 of 4

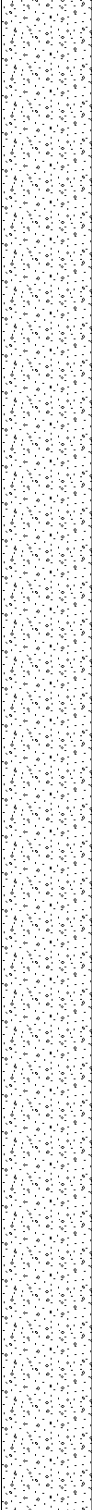
Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647324E - 264544N	Hole Type CP
Location: Sizewell		Level: 1.68	Scale 1:50
Client: NNB GenCo		Dates: 10/03/2014	Logged By SHaynes

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		20.50 - 21.00	B					Dense brown to bluish grey slightly gravelly to gravelly to coarse SAND with occasional thick laminations of weak grey siltstone <15mm . Gravel is angular fine flint and shell fragments. RCG		
		21.00	D							21
		21.50 - 21.85 21.50	B SPT	N=77*					<u>Below 21.50m, becomes bluish grey.</u>	
		22.00	D						<u>At 22.00m, thin lamination of soft grey clay 4mm.</u>	22
		23.00 23.00 - 23.33 23.00	D B SPT	N=81*					<u>Below 23.00m, becomes slightly gravelly.</u>	23
		24.00	D							24
		24.50 24.50	B SPT	N=86*						25
		25.00	D							26
		26.00 26.00 - 26.30 26.00	D B SPT	N=120*					<u>At 26.00m, occasional whole shell &lt;20mm.</u>	27
		27.00	D		27.00	-25.32			Dense bluish grey very gravelly coarse SAND with frequent thick laminations of weak grey siltstone <20mm. Gravel is angular fine to medium shell fragments. RCG	28
		27.50 27.50	B SPT	N=214*					29	
		28.00	D						30	
		29.00 29.00 - 29.45 29.00	D B SPT	N=158*						
		30.00	D							
								Continued on Next Sheet		

Remarks  
 1. Inspection pit hand dug to 1.20m. 2. Groundwater struck at 1.30m, rising to 1.20m after 20 minutes. 3. Blowing sand from 19.00m. 4. Water and polymer added to assist drilling.



Project Name: Sizewell C Enabling Works	Project No. 5190666	Co-ords: 647324E - 264544N	Hole Type CP
Location: Sizewell		Level: 1.68	Scale 1:50
Client: NNB GenCo		Dates: 10/03/2014	Logged By SHaynes

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		30.50 30.50	B SPT	N=167*			 <p>Dense bluish grey very gravelly coarse SAND with frequent thick laminations of weak grey siltstone &lt;20mm. Gravel is angular fine to medium shell fragments. RCG</p> <p><u>At 33.00m, very thin bed of gravel of whole and shell fragments &lt;80mm.</u></p> <p><u>Below 36.00m, becomes grey.</u></p> <p><u>Below 39.00m, becomes extremely weakly cemented in bands &lt;20mm.</u></p> <p>End of Borehole at 40.00m</p>		
		31.00	D						31
		32.00 32.00 - 32.30 32.00	D B SPT	N=130*					32
		33.00	D						33
		33.50 - 33.80 33.50	B SPT	N=158*					34
		34.00	D						34
		35.00 35.00 - 35.80 35.00	D B SPT	N=158*					35
		36.00	D						36
		36.50 36.50	B SPT	N=158*					37
		37.00	D						37
		38.00	D						38
		38.50 38.50	B SPT	N=167*					39
		39.00	D						39
		39.50 39.50	B SPT	N=167*					40
		40.00	D		40.00	-38.32		40	

Remarks  
 1. Inspection pit hand dug to 1.20m. 2. Groundwater struck at 1.30m, rising to 1.20m after 20 minutes. 3. Blowing sand from 19.00m. 4. Water and polymer added to assist drilling.





# Appendix C. Freshwater EQS screening

## C.1. MBAT Assessment

INPUT DATA											RESULTS (Copper)			RESULTS (Zinc)			RESULTS (Mn)			RESULTS (Ni)							
ID	Location	Waterbody	Date	Measured Cu Concentration (dissolved) (µg l <sup>-1</sup> )	Measured Zn Concentration (dissolved) (µg l <sup>-1</sup> )	Measured Mn Concentration (dissolved) (µg l <sup>-1</sup> )	Measured Ni Concentration (dissolved) (µg l <sup>-1</sup> )	pH	DOC	Ca	Site-specific PNEC Dissolved Copper (µg l <sup>-1</sup> )	BioF	Bioavailable Copper Concentration (µg l <sup>-1</sup> )	Risk Characterisation Ratio	Site-specific PNEC Dissolved Zinc (µg l <sup>-1</sup> )	BioF	Bioavailable Zinc Concentration (µg l <sup>-1</sup> )	Risk Characterisation Ratio	Site-specific PNEC Dissolved Manganese (µg l <sup>-1</sup> )	BioF	Bioavailable Manganese Concentration (µg l <sup>-1</sup> )	Risk Characterisation Ratio	Site-specific PNEC Dissolved Nickel (µg l <sup>-1</sup> )	BioF	Bioavailable Nickel Concentration (µg l <sup>-1</sup> )	Risk Characterisation Ratio	
1	Sizewell - Average values from baseline surface water data (G3-G7) used for pH and calcium with a median value adopted for DOC.		27/02/2024					8.02	10.36	144.3	28.63	0.03			48.08	0.23			211.21	0.58			16.86	0.24			









ID	Location	Waterbody	Date	Measured Pb Concentration (dissolved) ( $\mu\text{g l}^{-1}$ )	DOC	Site Specific PNEC Dissolved Pb ( $\mu\text{g l}^{-1}$ )
1	Sizewell				10.36	12.43

Notes

Median value from Sizewell baseline surface water monitoring (G3-G7) used for DOC value.

## C.2. Freshwater EQS Screening Sheet











## Appendix D. Laboratory Sheets



# Final Report

---

**Report No.:** 20-30618-1  
**Initial Date of Issue:** 18-Nov-2020  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Jenny Wilcox  
**Project:** 5185703  
**Quotation No.:** Q20-21888 **Date Received:** 12-Nov-2020  
**Order No.:** 5185703.001.17112020 **Date Instructed:** 12-Nov-2020  
**No. of Samples:** 1  
**Turnaround (Wkdays):** 5 **Results Due:** 18-Nov-2020  
**Date Approved:** 18-Nov-2020

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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# Final Report

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**Report No.:** 20-30618-1  
**Initial Date of Issue:** 18-Nov-2020  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Jenny Wilcox  
**Project:** 5185703  
**Quotation No.:** Q20-21888 **Date Received:** 12-Nov-2020  
**Order No.:** 5185703.001.17112020 **Date Instructed:** 12-Nov-2020  
**No. of Samples:** 1  
**Turnaround (Wkdays):** 5 **Results Due:** 18-Nov-2020  
**Date Approved:** 18-Nov-2020

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30618
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1095141
	Sample Location:				C3D
	Sample Type:				WATER
	Top Depth (m):				16.00
	Bottom Depth (m):				16.00
	Date Sampled:				10-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
pH	U	1010		N/A	8.2
Electrical Conductivity	U	1020	µS/cm	1.0	360
Suspended Solids At 105C	U	1030	mg/l	5.0	28
Alkalinity (Total)	U	1220	mg/l	10	78
Chloride	U	1220	mg/l	1.0	53
Ammonium	U	1220	mg/l	0.050	0.20
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.17
Nitrite	U	1220	mg/l	0.020	< 0.020
Nitrate	U	1220	mg/l	0.50	< 0.50
Phosphate	U	1220	mg/l	0.200	0.35
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.11
Sulphate	U	1220	mg/l	1.0	36
Total Oxidised Nitrogen	U	1220	mg/l	0.20	< 0.20
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Calcium	U	1415	mg/l	5.0	37
Potassium	U	1415	mg/l	0.50	1.7
Magnesium	U	1415	mg/l	0.50	1.3
Sodium	U	1415	mg/l	0.50	23
Arsenic (Dissolved)	U	1450	µg/l	1.0	1.8
Boron (Dissolved)	U	1450	µg/l	20	< 20
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	< 1.0
Copper (Dissolved)	U	1450	µg/l	1.0	< 1.0
Iron (Dissolved)	N	1450	µg/l	20	170
Manganese (Dissolved)	U	1450	µg/l	1.0	160
Nickel (Dissolved)	U	1450	µg/l	1.0	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	2.4
Mercury Low Level	U	1460	µg/l	0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	< 0.10
Chromium (Trivalent)	U	1450	µg/l	1	< 1
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	3.3
Total TPH >C6-C40	U	1670	µg/l	10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010



## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30618				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095141				
	Sample Location: C3D				
	Sample Type: WATER				
	Top Depth (m): 16.00				
	Bottom Depth (m): 16.00				
	Date Sampled: 10-Nov-2020				
Determinand	Accred.	SOP	Units	LOD	
Fluoranthene	N	1700	µg/l	0.010	< 0.010
Pyrene	N	1700	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30618				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095141				
	Sample Location: C3D				
	Sample Type: WATER				
	Top Depth (m): 16.00				
	Bottom Depth (m): 16.00				
	Date Sampled: 10-Nov-2020				
Determinand	Accred.	SOP	Units	LOD	
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5.0	< 5.0
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30618
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1095141
	Sample Location:				C3D
	Sample Type:				WATER
	Top Depth (m):				16.00
	Bottom Depth (m):				16.00
	Date Sampled:				10-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30618				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095141				
	Sample Location: C3D				
	Sample Type: WATER				
	Top Depth (m): 16.00				
	Bottom Depth (m): 16.00				
	Date Sampled: 10-Nov-2020				
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 20-30686-1  
**Initial Date of Issue:** 20-Nov-2020  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Jenny Wilcox  
**Project:** 5185703 Sizewell C  
**Quotation No.:** Q20-21888 **Date Received:** 12-Nov-2020  
**Order No.:** 5185703.001.17112020 **Date Instructed:** 12-Nov-2020  
**No. of Samples:** 1  
**Turnaround (Wkdays):** 5 **Results Due:** 18-Nov-2020  
**Date Approved:** 18-Nov-2020

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30686
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1095421
	Sample Location:				C3S
	Sample Type:				WATER
	Top Depth (m):				6.00
	Bottom Depth (m):				6.00
	Date Sampled:				10-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
pH	U	1010		N/A	5.9
Electrical Conductivity	U	1020	µS/cm	1.0	1300
Suspended Solids At 105C	U	1030	mg/l	5.0	9.0
Alkalinity (Total)	U	1220	mg/l	10	< 10
Chloride	U	1220	mg/l	1.0	380
Ammonium	U	1220	mg/l	0.050	0.063
Ammoniacal Nitrogen	U	1220	mg/l	0.050	< 0.050
Nitrite	U	1220	mg/l	0.020	0.033
Nitrate	U	1220	mg/l	0.50	2.4
Phosphate	U	1220	mg/l	0.200	< 0.20
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.024
Sulphate	U	1220	mg/l	1.0	27
Total Oxidised Nitrogen	U	1220	mg/l	0.20	0.54
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Calcium	U	1415	mg/l	5.0	16
Potassium	U	1415	mg/l	0.50	8.6
Magnesium	U	1415	mg/l	0.50	27
Sodium	U	1415	mg/l	0.50	110
Arsenic (Dissolved)	U	1450	µg/l	1.0	< 1.0
Boron (Dissolved)	U	1450	µg/l	20	42
Cadmium (Dissolved)	U	1450	µg/l	0.080	0.13
Chromium (Dissolved)	U	1450	µg/l	1.0	2.6
Copper (Dissolved)	U	1450	µg/l	1.0	1.2
Iron (Dissolved)	N	1450	µg/l	20	350
Manganese (Dissolved)	U	1450	µg/l	1.0	< 1.0
Nickel (Dissolved)	U	1450	µg/l	1.0	16
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	7.8
Mercury Low Level	U	1460	µg/l	0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	< 0.10
Chromium (Trivalent)	U	1450	µg/l	1	3
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	5.2
Total TPH >C6-C40	U	1670	µg/l	10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010



## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30686
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1095421
	Sample Location:				C3S
	Sample Type:				WATER
	Top Depth (m):				6.00
	Bottom Depth (m):				6.00
	Date Sampled:				10-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
Fluoranthene	N	1700	µg/l	0.010	< 0.010
Pyrene	N	1700	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b>		20-30686	
Quotation No.: Q20-21888		<b>Chemtest Sample ID.:</b>		1095421	
		Sample Location:		C3S	
		Sample Type:		WATER	
		Top Depth (m):		6.00	
		Bottom Depth (m):		6.00	
		Date Sampled:		10-Nov-2020	
Determinand	Accred.	SOP	Units	LOD	
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5.0	< 5.0
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>		20-30686		
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>		1095421		
	Sample Location:		C3S		
	Sample Type:		WATER		
	Top Depth (m):		6.00		
	Bottom Depth (m):		6.00		
	Date Sampled:		10-Nov-2020		
Determinand	Accred.	SOP	Units	LOD	
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30686				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095421				
	Sample Location:		C3S		
	Sample Type:		WATER		
	Top Depth (m):		6.00		
	Bottom Depth (m):		6.00		
	Date Sampled:		10-Nov-2020		
Determinand	Accred.	SOP	Units	LOD	
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 20-30950-1  
**Initial Date of Issue:** 20-Nov-2020  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Jenny Wilcox  
**Project:** S185703 Sizewell C  
**Quotation No.:** Q20-21888 **Date Received:** 13-Nov-2020  
**Order No.:** 5185703.001.17112020 **Date Instructed:** 13-Nov-2020  
**No. of Samples:** 1  
**Turnaround (Wkdays):** 5 **Results Due:** 19-Nov-2020  
**Date Approved:** 19-Nov-2020

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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## Results - Water

**Project: S185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30950
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1096467
	Sample Location:				C4S
	Sample Type:				WATER
	Top Depth (m):				00
	Bottom Depth (m):				4.00
	Date Sampled:				11-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
pH	U	1010		N/A	8.6
Electrical Conductivity	U	1020	µS/cm	1.0	240
Suspended Solids At 105C	U	1030	mg/l	5.0	26
Alkalinity (Total)	U	1220	mg/l	10	22
Chloride	U	1220	mg/l	1.0	26
Ammonium	U	1220	mg/l	0.050	< 0.050
Ammoniacal Nitrogen	U	1220	mg/l	0.050	< 0.050
Nitrite	U	1220	mg/l	0.020	< 0.020
Nitrate	U	1220	mg/l	0.50	17
Phosphate	U	1220	mg/l	0.200	0.32
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.10
Sulphate	U	1220	mg/l	1.0	28
Total Oxidised Nitrogen	U	1220	mg/l	0.20	3.8
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Calcium	U	1415	mg/l	5.0	8.1
Potassium	U	1415	mg/l	0.50	3.3
Magnesium	U	1415	mg/l	0.50	5.6
Sodium	U	1415	mg/l	0.50	24
Arsenic (Dissolved)	U	1450	µg/l	1.0	< 1.0
Boron (Dissolved)	U	1450	µg/l	20	< 20
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	2.9
Copper (Dissolved)	U	1450	µg/l	1.0	< 1.0
Iron (Dissolved)	N	1450	µg/l	20	< 20
Manganese (Dissolved)	U	1450	µg/l	1.0	1.9
Nickel (Dissolved)	U	1450	µg/l	1.0	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	3.2
Mercury Low Level	U	1460	µg/l	0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	0.95
Chromium (Trivalent)	U	1450	µg/l	1	2
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	3.1
Total TPH >C6-C40	U	1670	µg/l	10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010



## Results - Water

**Project: S185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30950				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1096467				
	Sample Location: C4S				
	Sample Type: WATER				
	Top Depth (m): 00				
	Bottom Depth (m): 4.00				
	Date Sampled: 11-Nov-2020				
Determinand	Accred.	SOP	Units	LOD	
Fluoranthene	N	1700	µg/l	0.010	< 0.010
Pyrene	N	1700	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0

## Results - Water

**Project: S185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b>		20-30950	
Quotation No.: Q20-21888		<b>Chemtest Sample ID.:</b>		1096467	
		Sample Location:		C4S	
		Sample Type:		WATER	
		Top Depth (m):		00	
		Bottom Depth (m):		4.00	
		Date Sampled:		11-Nov-2020	
Determinand	Accred.	SOP	Units	LOD	
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5.0	< 5.0
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: S185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30950				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1096467				
	Sample Location: C4S				
	Sample Type: WATER				
	Top Depth (m): 00				
	Bottom Depth (m): 4.00				
	Date Sampled: 11-Nov-2020				
Determinand	Accred.	SOP	Units	LOD	
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: S185703 Sizewell C**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30950				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1096467				
	Sample Location:		C4S		
	Sample Type:		WATER		
	Top Depth (m):		00		
	Bottom Depth (m):		4.00		
	Date Sampled:		11-Nov-2020		
Determinand	Accred.	SOP	Units	LOD	
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 21-16308-1  
**Initial Date of Issue:** 25-May-2021  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Natasha Glynn  
Alice Smith  
**Project:** 5185703 Sizewell C  
**Quotation No.:** Q20-21888 **Date Received:** 17-May-2021  
**Order No.:** 5185703/CHEM/250521 **Date Instructed:** 17-May-2021  
**No. of Samples:** 6  
**Turnaround (Wkdays):** 5 **Results Due:** 21-May-2021  
**Date Approved:** 21-May-2021

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16308	21-16308	21-16308	21-16308	21-16308	21-16308	
Quotation No.: Q20-21888		Chemtest Sample ID.:		1201629	1201630	1201631	1201632	1201633	1201634	
		Sample Location:		C3s	C3d	G1	P13	C2s	C2d	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		5.00	16.00		1.50	4.50	18.00	
		Date Sampled:		13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	
Determinand	Accred.	SOP	Units	LOD						
pH	U	1010		N/A	7.5	8.2	8.2	7.3	7.7	8.1
Electrical Conductivity	U	1020	µS/cm	1.0	3300	400	910	1000	750	970
Suspended Solids At 105C	U	1030	mg/l	5.0	25	20	520	190	28	100
Alkalinity (Total)	U	1220	mg/l	10	< 10	55	270	270	47	390
Chloride	U	1220	mg/l	1.0	1100	51	110	210	140	63
Ammonium	U	1220	mg/l	0.050	0.31	0.19	1.0	< 0.050	0.39	2.5
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.24	0.16	0.86	< 0.050	0.31	2.1
Nitrite	U	1220	mg/l	0.020	< 0.020	< 0.020	0.067	< 0.020	< 0.020	< 0.020
Nitrate	U	1220	mg/l	0.50	1.8	< 0.50	0.76	< 0.50	45	< 0.50
Phosphate	U	1220	mg/l	0.200	< 0.20	0.25	< 0.20	< 0.20	< 0.20	< 0.20
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.022	0.082	0.026	0.036	0.025	0.030
Sulphate	U	1220	mg/l	1.0	53	32	60	< 1.0	81	49
Total Oxidised Nitrogen	U	1220	mg/l	0.20	0.41	< 0.20	< 0.20	< 0.20	10	< 0.20
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	48	30	120	96	53	150
Potassium	U	1455	mg/l	0.50	11	2.0	6.6	5.6	2.9	2.9
Magnesium	U	1455	mg/l	0.20	91	2.2	12	35	7.2	13
Sodium	U	1455	mg/l	1.50	430	25	52	62	73	41
Arsenic (Dissolved)	U	1455	µg/l	0.20	< 0.20	1.3	2.4	18	0.84	1.0
Boron (Dissolved)	U	1455	µg/l	10.0	41	14	38	57	44	36
Cadmium (Dissolved)	U	1455	µg/l	0.11	0.46	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	7.1	6.8	7.1	8.1	7.4	7.6
Copper (Dissolved)	U	1455	µg/l	0.50	0.70	9.7	0.56	0.81	< 0.50	< 0.50
Iron (Dissolved)	N	1455	µg/l	5.0	34	24	190	38000	750	150
Manganese (Dissolved)	U	1455	µg/l	0.50	14000	120	1000	2700	73	2100
Nickel (Dissolved)	U	1455	µg/l	0.50	24	3.9	4.7	19	4.4	4.1
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	3.0	15	< 3.0	< 3.0	< 3.0	< 3.0	3.5
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	[B] 4.4	[B] 0.38	[B] 3.7	[B] < 0.10	[B] 1.1	[B] < 0.10
Chromium (Trivalent)	U	1450	µg/l	1	3	6	3	8	6	8
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	9.7	0.72	13	45	3.3	3.3
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010



## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16308	21-16308	21-16308	21-16308	21-16308	21-16308
Quotation No.: Q20-21888		Chemtest Sample ID.:		1201629	1201630	1201631	1201632	1201633	1201634
		Sample Location:		C3s	C3d	G1	P13	C2s	C2d
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		5.00	16.00		1.50	4.50	18.00
		Date Sampled:		13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021
Determinand	Accred.	SOP	Units	LOD					
Pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	14	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16308	21-16308	21-16308	21-16308	21-16308	21-16308	21-16308
Quotation No.: Q20-21888		Chemtest Sample ID.:		1201629	1201630	1201631	1201632	1201633	1201634	
		Sample Location:		C3s	C3d	G1	P13	C2s	C2d	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		5.00	16.00		1.50	4.50	18.00	
		Date Sampled:		13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	
Determinand	Accred.	SOP	Units	LOD						
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16308	21-16308	21-16308	21-16308	21-16308	21-16308
Quotation No.: Q20-21888		Chemtest Sample ID.:		1201629	1201630	1201631	1201632	1201633	1201634
		Sample Location:		C3s	C3d	G1	P13	C2s	C2d
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		5.00	16.00		1.50	4.50	18.00
		Date Sampled:		13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021
Determinand	Accred.	SOP	Units	LOD					
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16308	21-16308	21-16308	21-16308	21-16308	21-16308
Quotation No.: Q20-21888		Chemtest Sample ID.:		1201629	1201630	1201631	1201632	1201633	1201634
		Sample Location:		C3s	C3d	G1	P13	C2s	C2d
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		5.00	16.00		1.50	4.50	18.00
		Date Sampled:		13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021	13-May-2021
Determinand	Accred.	SOP	Units	LOD					
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030

## Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1201629			C3s	13-May-2021	B	Coloured Winchester 1000ml
1201629			C3s	13-May-2021	B	EPA Vial 40ml
1201629			C3s	13-May-2021	B	Plastic Bottle 1000ml
1201630			C3d	13-May-2021	B	Coloured Winchester 1000ml
1201630			C3d	13-May-2021	B	EPA Vial 40ml
1201630			C3d	13-May-2021	B	Plastic Bottle 1000ml
1201631			G1	13-May-2021	B	Coloured Winchester 1000ml
1201631			G1	13-May-2021	B	EPA Vial 40ml
1201631			G1	13-May-2021	B	Plastic Bottle 1000ml
1201632			P13	13-May-2021	B	Coloured Winchester 1000ml
1201632			P13	13-May-2021	B	EPA Vial 40ml
1201632			P13	13-May-2021	B	Plastic Bottle 1000ml
1201633			C2s	13-May-2021	B	Coloured Winchester 1000ml
1201633			C2s	13-May-2021	B	EPA Vial 40ml
1201633			C2s	13-May-2021	B	Plastic Bottle 1000ml
1201634			C2d	13-May-2021	B	Coloured Winchester 1000ml
1201634			C2d	13-May-2021	B	EPA Vial 40ml
1201634			C2d	13-May-2021	B	Plastic Bottle 1000ml

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 21-16868-1  
**Initial Date of Issue:** 26-May-2021  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Natasha Glynn  
Alice Smith  
**Project:** 5185703 Sizewell C  
**Quotation No.:** Q20-21888 **Date Received:** 20-May-2021  
**Order No.:** 5185703/CHEM/250521 **Date Instructed:** 20-May-2021  
**No. of Samples:** 5  
**Turnaround (Wkdays):** 5 **Results Due:** 26-May-2021  
**Date Approved:** 26-May-2021

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16868	21-16868	21-16868	21-16868	21-16868	
Quotation No.: Q20-21888		Chemtest Sample ID.:		1204423	1204424	1204425	1204426	1204427	
		Sample Location:		P12	C4S	C4D	G3	G4	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		1.5	4.5	16.00			
		Date Sampled:		18-May-2021	18-May-2021	18-May-2021	18-May-2021	18-May-2021	
Determinand	Accred.	SOP	Units	LOD					
pH	U	1010		N/A	8.2	8.0	7.8	8.1	8.2
Electrical Conductivity	U	1020	µS/cm	1.0	300	200	1400	880	1100
Suspended Solids At 105C	U	1030	mg/l	5.0	15	12	29	43	39
Alkalinity (Total)	U	1220	mg/l	10	87	11	220	370	220
Chloride	U	1220	mg/l	1.0	35	26	330	58	120
Ammonium	U	1220	mg/l	0.050	0.75	< 0.050	0.051	0.19	0.15
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.64	< 0.050	< 0.050	0.16	0.12
Nitrite	U	1220	mg/l	0.020	< 0.020	< 0.020	< 0.020	0.13	0.19
Nitrate	U	1220	mg/l	0.50	< 0.50	16	< 0.50	3.2	54
Phosphate	U	1220	mg/l	0.200	0.26	0.29	< 0.20	< 0.20	0.68
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.085	0.095	0.039	0.025	0.22
Sulphate	U	1220	mg/l	1.0	31	25	47	93	86
Total Oxidised Nitrogen	U	1220	mg/l	0.20	< 0.20	3.6	< 0.20	0.77	12
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	35	5.2	200	150	130
Potassium	U	1455	mg/l	0.50	1.7	2.6	12	7.6	11
Magnesium	U	1455	mg/l	0.20	3.4	5.2	13	12	9.9
Sodium	U	1455	mg/l	1.50	18	21	53	32	64
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.67	0.60	0.86	0.68	1.1
Boron (Dissolved)	U	1455	µg/l	10.0	31	14	34	30	40
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	42	73	45	49	40
Copper (Dissolved)	U	1455	µg/l	0.50	1.2	1.7	1.1	1.4	2.5
Iron (Dissolved)	N	1455	µg/l	5.0	380	310	200	220	230
Manganese (Dissolved)	U	1455	µg/l	0.50	300	13	190	18	61
Nickel (Dissolved)	U	1455	µg/l	0.50	18	31	20	21	18
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	< 3.0	< 3.0	< 3.0	< 3.0	3.5
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	< 0.10	5.3	< 0.10	4.6	5.3
Chromium (Trivalent)	U	1450	µg/l	1	42	68	45	44	35
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	5.2	0.73	0.91	4.7	6.2
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10	< 10	< 10	< 10
Naphthalene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010	< 0.010

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16868	21-16868	21-16868	21-16868	21-16868
Quotation No.: Q20-21888		Chemtest Sample ID.:		1204423	1204424	1204425	1204426	1204427
		Sample Location:		P12	C4S	C4D	G3	G4
		Sample Type:		WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	4.5	16.00		
		Date Sampled:		18-May-2021	18-May-2021	18-May-2021	18-May-2021	18-May-2021
Determinand	Accred.	SOP	Units	LOD				
Pyrene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	[C] < 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	[C] < 0.20	< 0.20	< 0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16868	21-16868	21-16868	21-16868	21-16868
Quotation No.: Q20-21888		Chemtest Sample ID.:		1204423	1204424	1204425	1204426	1204427
		Sample Location:		P12	C4S	C4D	G3	G4
		Sample Type:		WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	4.5	16.00		
		Date Sampled:		18-May-2021	18-May-2021	18-May-2021	18-May-2021	18-May-2021
Determinand	Accred.	SOP	Units	LOD				
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16868	21-16868	21-16868	21-16868	21-16868
Quotation No.: Q20-21888		Chemtest Sample ID.:		1204423	1204424	1204425	1204426	1204427
		Sample Location:		P12	C4S	C4D	G3	G4
		Sample Type:		WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	4.5	16.00		
		Date Sampled:		18-May-2021	18-May-2021	18-May-2021	18-May-2021	18-May-2021
Determinand	Accred.	SOP	Units	LOD				
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-16868	21-16868	21-16868	21-16868	21-16868
Quotation No.: Q20-21888		Chemtest Sample ID.:		1204423	1204424	1204425	1204426	1204427
		Sample Location:		P12	C4S	C4D	G3	G4
		Sample Type:		WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	4.5	16.00		
		Date Sampled:		18-May-2021	18-May-2021	18-May-2021	18-May-2021	18-May-2021
Determinand	Accred.	SOP	Units	LOD				
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	[C] < 0.030	< 0.030	< 0.030	< 0.030

## Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

<b>Sample:</b>	<b>Sample Ref:</b>	<b>Sample ID:</b>	<b>Sample Location:</b>	<b>Sampled Date:</b>	<b>Deviation Code(s):</b>	<b>Containers Received:</b>
1204423			P12	18-May-2021	C	EPA Vial 40ml
1204423			P12	18-May-2021	C	Plastic Bottle 1000ml

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)





# Final Report

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**Report No.:** 21-40629-1  
**Initial Date of Issue:** 09-Dec-2021  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Natasha Glynn  
**Project:** 5185703 Sizewell C  
**Quotation No.:** Q20-21888 **Date Received:** 19-Nov-2021  
**Order No.:** IFS10554 **Date Instructed:** 19-Nov-2021  
**No. of Samples:** 12  
**Turnaround (Wkdays):** 5 **Results Due:** 25-Nov-2021  
**Date Approved:** 03-Dec-2021

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

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## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322890	1322891	1322892	1322893	1322894	1322895	1322896	1322897	
		Sample Location:		BP23	C3S	C3D	G1	P13	C4S	C4D	G6a	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		9.00	5.00	15.00	0.00	1.50	4.50	16.00	0.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD								
pH	U	1010		N/A	8.3	8.2	8.3	7.8	7.4	7.8	7.2	7.6
Electrical Conductivity	U	1020	µS/cm	1.0	970	880	330	1000	950	250	2600	1100
Suspended Solids At 105C	U	1030	mg/l	5.0	27	37	54	38	940	84	68	36
Aggressive Dissolved CO2	N	1160	mg/l	0.60	< 0.60	2.9	1.5		21	< 0.60	14	
Alkalinity (Total)	U	1220	mg/l	10	88	< 10	53	380	200	14	170	360
Chloride	U	1220	mg/l	1.0	140	300	46	140	210	26	680	120
Ammonium	U	1220	mg/l	0.050	< 0.050	0.090	0.072	0.39	< 0.050	0.26	0.27	0.33
Ammoniacal Nitrogen	U	1220	mg/l	0.050	< 0.050	0.075	0.062	0.31	< 0.050	0.21	0.21	0.26
Nitrite	U	1220	mg/l	0.020	< 0.020	< 0.020	< 0.020	0.28	< 0.020	< 0.020	< 0.020	0.15
Nitrate	U	1220	mg/l	0.50	110	5.8	< 0.50	16	< 0.50	26	< 0.50	21
Phosphate	U	1220	mg/l	0.200	< 0.20	< 0.20	0.21	< 0.20	< 0.20	0.28	< 0.20	0.26
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.049	< 0.020	0.069	0.039	0.039	0.091	< 0.020	0.085
Sulphate	U	1220	mg/l	1.0	65	34	36	73	< 1.0	25	50	74
Total Oxidised Nitrogen	U	1220	mg/l	0.20	25	1.3	< 0.20	3.6	< 0.20	5.9	< 0.20	4.8
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	100	10	33	140	95	6.7	330	140
Potassium	U	1455	mg/l	0.50	8.9	5.7	2.0	8.3	7.1	2.8	14	8.0
Magnesium	U	1455	mg/l	0.20	22	19	1.7	12	29	6.2	19	11
Sodium	U	1455	mg/l	1.50	36	120	24	56	48	24	120	51
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.31	< 0.20	1.4	0.88	29	1.8	1.1	0.76
Boron (Dissolved)	U	1455	µg/l	10.0	870	900	760	840	1100	920	830	820
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.1	< 0.50	< 0.50	< 0.50
Copper (Dissolved)	U	1455	µg/l	0.50	< 0.50	0.54	< 0.50	0.71	4.6	3.8	3.5	0.71
Iron (Dissolved)	N	1455	µg/l	5.0	< 5.0	27	< 5.0	43	36000	670	1300	26
Manganese (Dissolved)	U	1455	µg/l	0.50	2.7	2300	110	250	1900	78	100	190
Nickel (Dissolved)	U	1455	µg/l	0.50	0.72	5.8	< 0.50	0.76	9.6	1.1	2.3	0.73
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.79	1.2	1.9	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	5.4	13	< 2.5	8.8	31	23	35	9.0
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium (Trivalent) LL	U	1450	µg/l	1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	2.0	3.7	1.0	8.1	23	1.6	1.9	7.0
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322890	1322891	1322892	1322893	1322894	1322895	1322896	1322897	
		Sample Location:		BP23	C3S	C3D	G1	P13	C4S	C4D	G6a	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		9.00	5.00	15.00	0.00	1.50	4.50	16.00	0.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD								
Fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	20	< 0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322890	1322891	1322892	1322893	1322894	1322895	1322896	1322897	
		Sample Location:		BP23	C3S	C3D	G1	P13	C4S	C4D	G6a	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		9.00	5.00	15.00	0.00	1.50	4.50	16.00	0.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD								
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322890	1322891	1322892	1322893	1322894	1322895	1322896	1322897	
		Sample Location:		BP23	C3S	C3D	G1	P13	C4S	C4D	G6a	
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	
		Top Depth (m):		9.00	5.00	15.00	0.00	1.50	4.50	16.00	0.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD								
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:										
Quotation No.: Q20-21888		Chemtest Sample ID.:										
		Sample Location:										
		Sample Type:										
		Top Depth (m):										
		Date Sampled:										
Determinand	Accred.	SOP	Units	LOD	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629	21-40629
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322898	1322899	1322900	1322903	
		Sample Location:		G8	DUP A	BP1028	BP28	
		Sample Type:		WATER	WATER	WATER	WATER	
		Top Depth (m):		0.00	0.00	18.00	18.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD				
pH	U	1010		N/A	7.7	7.7	7.5	8.5
Electrical Conductivity	U	1020	µS/cm	1.0	1200	1100	700	750
Suspended Solids At 105C	U	1030	mg/l	5.0	26	47	19	27
Aggressive Dissolved CO2	N	1160	mg/l	0.60			8.9	< 0.60
Alkalinity (Total)	U	1220	mg/l	10	370	340	28	28
Chloride	U	1220	mg/l	1.0	210	120	86	82
Ammonium	U	1220	mg/l	0.050	0.28	0.31	0.13	0.053
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.23	0.25	0.10	< 0.050
Nitrite	U	1220	mg/l	0.020	0.26	0.15	< 0.020	< 0.020
Nitrate	U	1220	mg/l	0.50	15	21	98	98
Phosphate	U	1220	mg/l	0.200	< 0.20	0.26	< 0.20	< 0.20
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.039	0.085	0.021	0.039
Sulphate	U	1220	mg/l	1.0	74	75	60	58
Total Oxidised Nitrogen	U	1220	mg/l	0.20	3.4	4.8	22	22
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	140	140	60	62
Potassium	U	1455	mg/l	0.50	9.1	8.3	11	11
Magnesium	U	1455	mg/l	0.20	15	12	13	13
Sodium	U	1455	mg/l	1.50	79	52	30	30
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.86	0.75	0.32	0.44
Boron (Dissolved)	U	1455	µg/l	10.0	880	70	75	100
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11	< 0.11	0.50	0.46
Chromium (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	0.51
Copper (Dissolved)	U	1455	µg/l	0.50	1.0	0.51	1.1	1.0
Iron (Dissolved)	N	1455	µg/l	5.0	34	32	< 5.0	< 5.0
Manganese (Dissolved)	U	1455	µg/l	0.50	340	200	60	75
Nickel (Dissolved)	U	1455	µg/l	0.50	0.83	0.69	17	15
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	0.66	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	13	7.4	8.2	6.7
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	< 0.10	< 0.10	< 0.10	U/S
Chromium (Trivalent) LL	U	1450	µg/l	1	< 1	< 1	< 1	U/S
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	8.9	7.1	3.2	3.2
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10	< 10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322898	1322899	1322900	1322903	
		Sample Location:		G8	DUP A	BP1028	BP28	
		Sample Type:		WATER	WATER	WATER	WATER	
		Top Depth (m):		0.00	0.00	18.00	18.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD				
Fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010	< 0.010	< 0.010	[C] < 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20	< 0.20	< 0.20	[C] < 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	[C] < 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	[C] < 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	[C] < 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	[C] < 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	[C] < 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	[C] < 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	[C] < 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	[C] < 0.50	< 0.50	< 0.50



## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629	
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322898	1322899	1322900	1322903	
		Sample Location:		G8	DUP A	BP1028	BP28	
		Sample Type:		WATER	WATER	WATER	WATER	
		Top Depth (m):		0.00	0.00	18.00	18.00	
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021	
Determinand	Accred.	SOP	Units	LOD				
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	[C] < 0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	[C] < 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	[C] < 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	[C] < 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322898	1322899	1322900	1322903
		Sample Location:		G8	DUP A	BP1028	BP28
		Sample Type:		WATER	WATER	WATER	WATER
		Top Depth (m):		0.00	0.00	18.00	18.00
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021
Determinand	Accred.	SOP	Units	LOD			
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		21-40629	21-40629	21-40629	21-40629
Quotation No.: Q20-21888		Chemtest Sample ID.:		1322898	1322899	1322900	1322903
		Sample Location:		G8	DUP A	BP1028	BP28
		Sample Type:		WATER	WATER	WATER	WATER
		Top Depth (m):		0.00	0.00	18.00	18.00
		Date Sampled:		16-Nov-2021	16-Nov-2021	16-Nov-2021	16-Nov-2021
Determinand	Accred.	SOP	Units	LOD			
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	[C] < 0.030

## Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

<b>Sample:</b>	<b>Sample Ref:</b>	<b>Sample ID:</b>	<b>Sample Location:</b>	<b>Sampled Date:</b>	<b>Deviation Code(s):</b>	<b>Containers Received:</b>
1322899			DUP A	16-Nov-2021	C	Coloured Winchester 1000ml
1322899			DUP A	16-Nov-2021	C	Plastic Bottle 1000ml
1322903			BP28	16-Nov-2021	C	EPA Vial 40ml
1322903			BP28	16-Nov-2021	C	Plastic Bottle 1000ml

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1160	Aggressive Dissolved CO2	Aggressive Dissolved CO2	Titration
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 22-23813-1  
**Initial Date of Issue:** 01-Jul-2022  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Alice Smith  
Natasha Glynn  
**Project:** 5185703 Sizewell C  
**Quotation No.:** Q21-25865 **Date Received:** 24-Jun-2022  
**Order No.:** IFS10554 **Date Instructed:** 24-Jun-2022  
**No. of Samples:** 10  
**Turnaround (Wkdays):** 5 **Results Due:** 30-Jun-2022  
**Date Approved:** 01-Jul-2022

**Approved By:**

**Details:** Stuart Henderson, Technical  
Manager

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## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:											
Quotation No.: Q21-25865		Chemtest Sample ID.:											
Sample Location:		Date Sampled:											
Sample Type:		Date Sampled:											
Date Sampled:		Date Sampled:											
Determinand	Accred.	SOP	Units	LOD	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813
pH	U	1010		N/A	8.1	8.3	8.4	8.4	8.1	8.6	8.4	8.4	8.3
Electrical Conductivity	U	1020	µS/cm	1.0	1400	1500	1500	1600	1400	1500	1700	1600	1900
Suspended Solids At 105C	U	1030	mg/l	5.0	850	17	12	62	35	73	11	190	130
Alkalinity (Total)	U	1220	mg/l	10	410	450	470	510	55	96	410	71	420
Chloride	U	1220	mg/l	1.0	53	53	680	350	140	71	620	120	95
Ammonium	U	1220	mg/l	0.050	0.34	0.42	1.1	0.56	0.41	0.23	0.24	0.44	0.36
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.29	0.36	0.93	0.50	0.34	0.22	0.21	0.39	0.31
Nitrite	U	1220	mg/l	0.020	0.068	0.069	0.063	0.063	0.097	0.065	0.32	0.061	0.072
Nitrate	U	1220	mg/l	0.50	< 0.50	< 0.50	< 0.50	0.92	3.1	< 0.50	8.9	81	< 0.50
Phosphate	U	1220	mg/l	0.200	< 0.20	< 0.20	2.3	0.90	< 0.20	0.32	< 0.20	< 0.20	< 0.20
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.052	< 0.020	0.75	0.29	< 0.020	0.10	< 0.020	< 0.020	< 0.020
Sulphate	U	1220	mg/l	1.0	24	65	37	25	32	43	160	85	92
Total Oxidised Nitrogen	U	1220	mg/l	0.20	< 0.20	< 0.20	< 0.20	0.23	0.72	< 0.20	2.1	18	< 0.20
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	130	130	88	65	5.3	39	170	38	160
Potassium	U	1455	mg/l	0.50	3.2	3.7	12	7.3	3.5	2.2	16	2.9	2.3
Magnesium	U	1455	mg/l	0.20	7.6	9.1	2.8	3.2	9.1	2.2	13	4.5	11
Sodium	U	1455	mg/l	1.50	34	30	380	240	60	26	270	65	41
Arsenic (Dissolved)	U	1455	µg/l	0.20	2.5	0.75	3.4	7.8	0.88	2.7	1.7	0.99	0.83
Boron (Dissolved)	U	1455	µg/l	10.0	47	37	40	130	29	< 10	55	31	39
Cadmium (Dissolved)	U	1455	µg/l	0.11	0.49	0.44	0.58	0.62	0.65	0.84	0.57	0.60	0.49
Chromium (Dissolved)	U	1455	µg/l	0.50	< 0.50	2.0	6.9	8.1	5.8	< 0.50	1.3	< 0.50	< 0.50
Copper (Dissolved)	U	1455	µg/l	0.50	< 0.50	1.4	1.0	3.6	1.2	< 0.50	6.4	< 0.50	< 0.50
Iron (Dissolved)	N	1455	µg/l	5.0	100	6.2	580	340	< 5.0	< 5.0	< 5.0	< 5.0	25
Manganese (Dissolved)	U	1455	µg/l	0.50	1100	820	120	74	870	210	260	16	29
Nickel (Dissolved)	U	1455	µg/l	0.50	0.95	< 0.50	3.6	3.0	2.0	< 0.50	8.6	< 0.50	< 0.50
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	0.65	1.4	< 0.50	1.2	0.50	< 0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	5.3	5.0	6.6	4.9	9.3	3.8	6.4	9.4	6.6
Mercury Low Level	U	1460	µg/l	0.010	0.091	0.39	0.91	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chromium (Hexavalent)	U	1490	µg/l	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Chromium (Trivalent) LL	U	1450	µg/l	1	< 1	2	7	8	6	< 1	1	< 1	< 1
Total Organic Carbon	U	1610	mg/l	2.0	18	5.4	47	36	2.9	< 2.0	15	2.4	2.6
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0



## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.: 22-23813											
Quotation No.: Q21-25865		Chemtest Sample ID.: 1455391											
Sample Location:		PIE2-3B											
Sample Type:		WATER											
Date Sampled:		23-Jun-2022											
Determinand	Accred.	SOP	Units	LOD	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813	22-23813
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:											
Quotation No.: Q21-25865		Chemtest Sample ID.:											
Sample Location:		PIE2-3B	PIE2-3A	PIE2-1B	PIE2-1A	C3S	C3D	PIE2-2A	K2S	P9			
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER			
Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	
Determinand	Accred.	SOP	Units	LOD									
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.: 22-23813											
Quotation No.: Q21-25865		Chemtest Sample ID.: 1455391											
Sample Location:		PIE2-3B											
Sample Type:		WATER											
Date Sampled:		23-Jun-2022											
Determinand	Accred.	SOP	Units	LOD									
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:											
Quotation No.: Q21-25865		Chemtest Sample ID.:											
Sample Location:		PIE2-3B	PIE2-3A	PIE2-1B	PIE2-1A	C3S	C3D	PIE2-2A	K2S	P9			
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER			
Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	Accred.	SOP	Units	LOD									
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b>										
Quotation No.: Q21-25865		<b>Chemtest Sample ID.:</b>										
Sample Location:		PIE2-3B	PIE2-3A	PIE2-1B	PIE2-1A	C3S	C3D	PIE2-2A	K2S	P9		
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER		
Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022		
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>								
PCB 189	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b> 22-23813			
Quotation No.: Q21-25865		<b>Chemtest Sample ID.:</b> 1455400			
		Sample Location:		P10	
		Sample Type:		WATER	
		Date Sampled:		23-Jun-2022	
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
pH	U	1010		N/A	8.1
Electrical Conductivity	U	1020	µS/cm	1.0	1900
Suspended Solids At 105C	U	1030	mg/l	5.0	56
Alkalinity (Total)	U	1220	mg/l	10	100
Chloride	U	1220	mg/l	1.0	2100
Ammonium	U	1220	mg/l	0.050	0.29
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.24
Nitrite	U	1220	mg/l	0.020	0.058
Nitrate	U	1220	mg/l	0.50	< 0.50
Phosphate	U	1220	mg/l	0.200	< 0.20
Phosphorus (Dissolved)	U	1220	mg/l	0.020	< 0.020
Sulphate	U	1220	mg/l	1.0	95
Total Oxidised Nitrogen	U	1220	mg/l	0.20	< 0.20
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	680
Potassium	U	1455	mg/l	0.50	17
Magnesium	U	1455	mg/l	0.20	71
Sodium	U	1455	mg/l	1.50	200
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.76
Boron (Dissolved)	U	1455	µg/l	10.0	21
Cadmium (Dissolved)	U	1455	µg/l	0.11	0.35
Chromium (Dissolved)	U	1455	µg/l	0.50	< 0.50
Copper (Dissolved)	U	1455	µg/l	0.50	< 0.50
Iron (Dissolved)	N	1455	µg/l	5.0	110
Manganese (Dissolved)	U	1455	µg/l	0.50	590
Nickel (Dissolved)	U	1455	µg/l	0.50	1.1
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	3.9
Mercury Low Level	U	1460	µg/l	0.010	< 0.010
Chromium (Hexavalent)	U	1490	µg/l	20	< 20
Chromium (Trivalent) LL	U	1450	µg/l	1	< 1
Total Organic Carbon	U	1610	mg/l	2.0	< 2.0
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b> 22-23813			
Quotation No.: Q21-25865		<b>Chemtest Sample ID.:</b> 1455400			
		Sample Location:		P10	
		Sample Type:		WATER	
		Date Sampled:		23-Jun-2022	
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b>		22-23813	
Quotation No.: Q21-25865		<b>Chemtest Sample ID.:</b>		1455400	
		Sample Location:		P10	
		Sample Type:		WATER	
		Date Sampled:		23-Jun-2022	
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
Ethylbenzene	N	1760	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50



## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b> 22-23813			
Quotation No.: Q21-25865		<b>Chemtest Sample ID.:</b> 1455400			
		Sample Location:		P10	
		Sample Type:		WATER	
		Date Sampled:		23-Jun-2022	
Determinand	Accred.	SOP	Units	LOD	
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

<b>Client: Atkins Ltd</b>		<b>Chemtest Job No.:</b>		22-23813	
Quotation No.: Q21-25865		<b>Chemtest Sample ID.:</b>		1455400	
		Sample Location:		P10	
		Sample Type:		WATER	
		Date Sampled:		23-Jun-2022	
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1800	µg/l	0.010	< 0.010
Acenaphthylene	N	1800	µg/l	0.010	< 0.010
Acenaphthene	N	1800	µg/l	0.010	< 0.010
Fluorene	N	1800	µg/l	0.010	< 0.010
Phenanthrene	N	1800	µg/l	0.010	< 0.010
Anthracene	N	1800	µg/l	0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	< 0.20
PCB 28	N	1815	µg/l	0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010

## Results - Water

### Project: 5185703 Sizewell C

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 22-23813				
Quotation No.: Q21-25865	<b>Chemtest Sample ID.:</b> 1455400				
	Sample Location:			P10	
	Sample Type:			WATER	
	Date Sampled:			23-Jun-2022	
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
PCB 189	N	1815	µg/l	0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44 Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

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**Report No.:** 22-24515-1  
**Initial Date of Issue:** 07-Jul-2022  
**Client:** Atkins Ltd  
**Client Address:** The Axis  
10 Holliday Street  
Birmingham  
West Midlands  
B1 1TF  
**Contact(s):** Alice Smith  
Natasha Glynn  
**Project:** 5185703 Sizewell C  
**Quotation No.:** Q21-25865 **Date Received:** 30-Jun-2022  
**Order No.:** IFS10554 **Date Instructed:** 30-Jun-2022  
**No. of Samples:** 6  
**Turnaround (Wkdays):** 5 **Results Due:** 06-Jul-2022  
**Date Approved:** 07-Jul-2022

**Approved By:**

**Details:** Stuart Henderson, Technical  
Manager

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## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		22-24515	22-24515	22-24515	22-24515	22-24515	22-24515	
Quotation No.: Q21-25865		Chemtest Sample ID.:		1458384	1458385	1458386	1458387	1458388	1458389	
Sample Location:		P12	C4S	C4D	CW6a	PZ16	GW18			
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER			
Top Depth (m):		1.5	5.5	22	0.0	12.26				
Date Sampled:		28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	
Determinand	Accred.	SOP	Units	LOD						
pH	U	1010		N/A	9.0	9.4	8.8	8.9	8.9	9.3
Electrical Conductivity	U	1020	µS/cm	1.0	1100	290	1100	980	1100	230
Suspended Solids At 105C	U	1030	mg/l	5.0	820	100	29	190	16	33
Alkalinity (Total)	U	1220	mg/l	10	190	24	170	190	170	34
Chloride	U	1220	mg/l	1.0	67	46	240	110	190	37
Ammonium	U	1220	mg/l	0.050	1.0	0.56	1.3	0.54	0.70	0.40
Ammoniacal Nitrogen	U	1220	mg/l	0.050	1.2	1.0	1.4	0.61	0.76	0.62
Nitrite	U	1220	mg/l	0.020	0.34	0.34	0.32	0.75	0.23	0.20
Nitrate	U	1220	mg/l	0.50	1.1	6.0	2.2	5.8	0.69	9.7
Phosphate	U	1220	mg/l	0.200	0.31	< 0.20	< 0.20	< 0.20	< 0.20	0.27
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.10	< 0.020	< 0.020	< 0.020	< 0.020	0.088
Sulphate	U	1220	mg/l	1.0	26	42	61	110	13	3.7
Total Oxidised Nitrogen	U	1220	mg/l	0.20	0.36	1.5	0.59	1.5	0.23	2.3
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Calcium	U	1455	mg/l	2.00	33	4.6	150	140	130	8.2
Potassium	U	1455	mg/l	0.50	2.2	3.0	11	7.1	4.9	1.8
Magnesium	U	1455	mg/l	0.20	2.7	6.1	11	12	11	2.8
Sodium	U	1455	mg/l	1.50	24	25	39	55	70	9.9
Arsenic (Dissolved)	U	1455	µg/l	0.20	3.8	2.1	2.5	2.8	1.9	2.0
Boron (Dissolved)	U	1455	µg/l	10.0	210	190	48	40	43	20
Cadmium (Dissolved)	U	1455	µg/l	0.11	0.56	0.42	0.62	0.56	0.44	0.67
Chromium (Dissolved)	U	1455	µg/l	0.50	8.5	6.0	9.1	10	7.3	17
Copper (Dissolved)	U	1455	µg/l	0.50	1.4	0.61	1.8	2.1	0.71	1.9
Iron (Dissolved)	N	1455	µg/l	5.0	990	28	30	36	35	29
Manganese (Dissolved)	U	1455	µg/l	0.50	340	34	150	6.0	180	77
Nickel (Dissolved)	U	1455	µg/l	0.50	5.0	3.5	5.3	4.7	3.0	8.4
Lead (Dissolved)	U	1455	µg/l	0.50	1.0	0.74	0.92	0.95	0.94	0.97
Zinc (Dissolved)	U	1455	µg/l	2.5	10	15	15	9.6	16	19
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chromium (Hexavalent)	U	1490	µg/l	20	< 20	< 20	< 20	< 20	< 20	< 20
Chromium (Trivalent) LL	U	1450	µg/l	1	8	6	9	6	7	12
Total Organic Carbon	U	1610	mg/l	2.0	17	< 2.0	< 2.0	4.4	4.2	< 2.0
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		22-24515	22-24515	22-24515	22-24515	22-24515	22-24515
Quotation No.: Q21-25865		Chemtest Sample ID.:		1458384	1458385	1458386	1458387	1458388	1458389
Sample Location:		P12	C4S	C4D	CW6a	PZ16	GW18		
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER		
Top Depth (m):		1.5	5.5	22	0.0	12.26			
Date Sampled:		28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022		
Determinand	Accred.	SOP	Units	LOD					
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	5.6	< 0.10	< 0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50



## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		22-24515	22-24515	22-24515	22-24515	22-24515	22-24515
Quotation No.: Q21-25865		Chemtest Sample ID.:		1458384	1458385	1458386	1458387	1458388	1458389
Sample Location:		P12	C4S	C4D	CW6a	PZ16	GW18		
Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER		
Top Depth (m):		1.5	5.5	22	0.0	12.26			
Date Sampled:		28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022		
Determinand	Accred.	SOP	Units	LOD					
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		22-24515	22-24515	22-24515	22-24515	22-24515	22-24515
Quotation No.: Q21-25865		Chemtest Sample ID.:		1458384	1458385	1458386	1458387	1458388	1458389
		Sample Location:		P12	C4S	C4D	CW6a	PZ16	GW18
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	5.5	22	0.0	12.26	
		Date Sampled:		28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022
Determinand	Accred.	SOP	Units	LOD					
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		22-24515	22-24515	22-24515	22-24515	22-24515	22-24515
Quotation No.: Q21-25865		Chemtest Sample ID.:		1458384	1458385	1458386	1458387	1458388	1458389
		Sample Location:		P12	C4S	C4D	CW6a	PZ16	GW18
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	5.5	22	0.0	12.26	
		Date Sampled:		28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022
Determinand	Accred.	SOP	Units	LOD					
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

## Results - Water

**Project: 5185703 Sizewell C**

Client: Atkins Ltd		Chemtest Job No.:		22-24515	22-24515	22-24515	22-24515	22-24515	22-24515
Quotation No.: Q21-25865		Chemtest Sample ID.:		1458384	1458385	1458386	1458387	1458388	1458389
		Sample Location:		P12	C4S	C4D	CW6a	PZ16	GW18
		Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
		Top Depth (m):		1.5	5.5	22	0.0	12.26	
		Date Sampled:		28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022
Determinand	Accred.	SOP	Units	LOD					
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5-C6, >C6-C8, >C8- C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35- C44 Aromatics: >C5-C7, >C7-C8, >C8- C10, >C10-C12, >C12-C16, >C16- C21, >C21- C35, >C35- C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30618				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095141				
	Sample Location:		C3D		
	Sample Type:		WATER		
	Top Depth (m):		16.00		
	Bottom Depth (m):		16.00		
	Date Sampled:		10-Nov-2020		
Determinand	Accred.	SOP	Units	LOD	
pH	U	1010		N/A	8.2
Electrical Conductivity	U	1020	µS/cm	1.0	360
Suspended Solids At 105C	U	1030	mg/l	5.0	28
Alkalinity (Total)	U	1220	mg/l	10	78
Chloride	U	1220	mg/l	1.0	53
Ammonium	U	1220	mg/l	0.050	0.20
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.17
Nitrite	U	1220	mg/l	0.020	< 0.020
Nitrate	U	1220	mg/l	0.50	< 0.50
Phosphate	U	1220	mg/l	0.200	0.35
Phosphorus (Dissolved)	U	1220	mg/l	0.020	0.11
Sulphate	U	1220	mg/l	1.0	36
Total Oxidised Nitrogen	U	1220	mg/l	0.20	< 0.20
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Calcium	U	1415	mg/l	5.0	37
Potassium	U	1415	mg/l	0.50	1.7
Magnesium	U	1415	mg/l	0.50	1.3
Sodium	U	1415	mg/l	0.50	23
Arsenic (Dissolved)	U	1450	µg/l	1.0	1.8
Boron (Dissolved)	U	1450	µg/l	20	< 20
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1.0	< 1.0
Copper (Dissolved)	U	1450	µg/l	1.0	< 1.0
Iron (Dissolved)	N	1450	µg/l	20	170
Manganese (Dissolved)	U	1450	µg/l	1.0	160
Nickel (Dissolved)	U	1450	µg/l	1.0	< 1.0
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0
Zinc (Dissolved)	U	1450	µg/l	1.0	2.4
Mercury Low Level	U	1460	µg/l	0.010	< 0.010
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	< 0.10
Chromium (Trivalent)	U	1450	µg/l	1	< 1
Dissolved Organic Carbon Low Level	N	1610	mg/l	N/A	3.3
Total TPH >C6-C40	U	1670	µg/l	10	< 10
Naphthalene	N	1700	µg/l	0.010	< 0.010
Acenaphthylene	N	1700	µg/l	0.010	< 0.010
Acenaphthene	N	1700	µg/l	0.010	< 0.010
Fluorene	N	1700	µg/l	0.010	< 0.010
Phenanthrene	N	1700	µg/l	0.010	< 0.010
Anthracene	N	1700	µg/l	0.010	< 0.010

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30618				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095141				
	Sample Location: C3D				
	Sample Type: WATER				
	Top Depth (m): 16.00				
	Bottom Depth (m): 16.00				
	Date Sampled: 10-Nov-2020				
Determinand	Accred.	SOP	Units	LOD	
Fluoranthene	N	1700	µg/l	0.010	< 0.010
Pyrene	N	1700	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1700	µg/l	0.010	< 0.010
Chrysene	N	1700	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1700	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1700	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1700	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1700	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1700	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1700	µg/l	0.20	< 0.20
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0



## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30618
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1095141
	Sample Location:				C3D
	Sample Type:				WATER
	Top Depth (m):				16.00
	Bottom Depth (m):				16.00
	Date Sampled:				10-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10
o-Xylene	N	1760	µg/l	0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5.0	< 5.0
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b>				20-30618
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b>				1095141
	Sample Location:				C3D
	Sample Type:				WATER
	Top Depth (m):				16.00
	Bottom Depth (m):				16.00
	Date Sampled:				10-Nov-2020
Determinand	Accred.	SOP	Units	LOD	
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50

## Results - Water

**Project: 5185703**

<b>Client: Atkins Ltd</b>	<b>Chemtest Job No.:</b> 20-30618				
Quotation No.: Q20-21888	<b>Chemtest Sample ID.:</b> 1095141				
	Sample Location: C3D				
	Sample Type: WATER				
	Top Depth (m): 16.00				
	Bottom Depth (m): 16.00				
	Date Sampled: 10-Nov-2020				
<b>Determinand</b>	<b>Accred.</b>	<b>SOP</b>	<b>Units</b>	<b>LOD</b>	
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
PCB 28	N	1815	µg/l	0.010	< 0.010
PCB 81	N	1815	µg/l	0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010
PCB 77	N	1815	µg/l	0.010	< 0.010
PCB 105	N	1815	µg/l	0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010
PCB 114	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010
PCB 123	N	1815	µg/l	0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010
PCB 126	N	1815	µg/l	0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010
PCB 156	N	1815	µg/l	0.010	< 0.010
PCB 157	N	1815	µg/l	0.010	< 0.010
PCB 167	N	1815	µg/l	0.010	< 0.010
PCB 169	N	1815	µg/l	0.010	< 0.010
PCB 189	N	1815	µg/l	0.010	< 0.010
Total PCBs (12 Congeners)	N	1815	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010
Total Phenols	U	1920	mg/l	0.030	< 0.030

## Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

## **Report Information**

### **Key**

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U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)

## Appendix E. Upstream surface water quality data





















## Appendix F. H1 Surface water screening tests











Surface Water H1 Risk Assessment Phase 1, Part A Screening Tests										Pre-SCREENING Is the substance present in the discharge?				520992																
										RFR: Watercourse Q95 flow m <sup>3</sup> /s	EFR: Effluent flow rate (mean) m <sup>3</sup> /s																			
										0.0258	0.00603																			
Constituents	Unit	Limit of Detection	Freshwater EOS (Annual Average)	Number of Samples	Minimum Value	Maximum Value	mean (values below LOD treated as LOD)	count of tests	count of deflections	Is the substance measured in the discharge?	Is the LOD sufficiently low (LOD < 10% of EOS)?	Is the substance a Priority Hazardous Substance with a Significant Load limit?	Significant load in the discharge	C3S	C3D	C4S	C3s	C3d	C4S	C4D	C3S	C3D	C4S	C4D	C3S	C3D	P10	C4S	C4D	
Cadmium (Dissolved)	mg/l	0.00008	0.00025	16	0.00008	0.00084	0.0003	16	7	YES	NO	YES	5.23E-05	0.00013	0.00008	0.00008	0.00046	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00065	0.00084	0.00035	0.00042	0.00062
Anthracene	mg/l	0.00001	0.0001	16	0.0005	0.0005	0	16	0	NO	NO	YES	9.51E-05																	
Hexachlorobenzene	mg/l	0.0005	0.00005	16	0.0005	0.0005	0	16	0	NO	NO	YES	9.51E-05																	
Hexachlorobutadiene	mg/l	0.0001		16	0.0001	0.0001	0	16	0	NO	NO	YES	1.90E-06																	
Dissolved Mercury Low Level	mg/l	0.00001	0.00007	16	0.00001	0.00001	0	16	0	NO	NO	YES	1.90E-06																	
Benzo(a)pyrene	mg/l	0.00001	0.0000017	16	0.00001	0.00001	0	16	0	NO	NO	YES	1.90E-06																	
Sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h)perylene, indeno(1,2,3cd)pyrene.	mg/l	0.00004	0.00017	16	0.00004	0.00004	0.00004	16	0	NO	NO	YES	7.61E-06																	