



SOCOTEC

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Ref: LO/R3053/WQ003/CH

25 March 2021

Royal Docks Management Authority Ltd

Custom House
King George V Lock
Woolwich Manor Way
London
E16 2NJ

For the attention of Mr Miles Cole,

**CUSTOM HOUSE, KING GEORGE V LOCK
WATER SAMPLING, LABORATORY ANALYSIS AND WATER QUALITY ASSESSMENT**

1 Introduction

Royal Docks Management Authority Ltd (RoDMA) has requested that SOCOTEC UK Limited (SOCOTEC) undertake quarterly water sampling and chemical testing in addition to the monthly microbiological testing currently undertaken at the London Royal Docks.

RoDMA has not provided a testing specification for the water quality monitoring. Therefore a testing suite considered suitable for common contaminants has been selected to provide a general overview of contamination concentrations within the Royal Docks.

The Royal Docks are situated in East London approximately 2 km north east of the Isle of Dogs. The River Thames flows past the Royal Docks from the east and heads south past the Royal Docks. The Royal Docks pumping station is located at the mouth of the docks where water from the River Thames gets impounded. The Royal Docks are positioned along an east – west axis with the London City Airport located within the Royal Docks itself.

The offer to carry out the work was presented in SOCOTEC proposal letter referenced QLO-EN-152578-001-MH dated 9 July 2020. This proposal was accepted by RoDMA via a signed appointment letter dated 13 July 2020.

2 Fieldwork

A SOCOTEC Environmental Scientist attended site on the 09 March 2021 and collected three water samples from previously determined locations. The samples were noted to be green / brown to clear in colour with some suspended sediments.

RoDMA provided SOCOTEC access around the Royal Docks via a boat and water samples were collected from the side the boat via a stainless steel container lowered into the surface 0.5 m of the water. The samples were labelled as KG (King George), AM (Albert Marina) and BA (Beach Approach). All samples were placed in correx boxes and transported to the SOCOTEC MCerts and UKAS accredited Laboratory at Burton-on-Trent for analysis.

A sample location plan is attached as Figure 1 in Appendix A.

3 Laboratory Testing

A programme of laboratory testing was scheduled by SOCOTEC on the water samples for a range of potential contaminants to allow the water quality to be assessed.

The scheduled laboratory tests are detailed in Table 1 and the laboratory results are presented in the chemical laboratory test report referenced '21030828' (Ver. 1) (Appendix B).

Table 1 Summary of Surface Water Laboratory Testing

Determinand	No. of tests
Total and dissolved metals; Ni, Cr, Cd, Cu, Pb, Zn, As, Hg, Se	3
Chromium VI (Hexavalent)	3
pH	3
Total Suspended Solids	3
Chemical Oxygen Demand (COD)	3
Biochemical Oxygen Demand (BOD)	3
Total Dissolved Solids	3
Ammonical Nitrogen as N	3
Phosphate as P	3
Nitrate as N	3
Chloride as Cl	3
Calcium Hardness as CaCO ₃ in Water	3
Total Cyanide	3
Phenols Suite by HPLC UV	3
Total Petroleum Hydrocarbons (TPH) CWG with carbon banding and aliphatic / aromatic split	3
Gasoline Range Organics (GRO)	3
Volatile Organic Compounds (VOCs Target List) by GCMS	3
Polycyclic Aromatic Hydrocarbons (16 PAHs) by GCMS	3
Benzene Toluene Ethylbenzene Xylene (BTEX)	3
Electrical Conductivity uS/cm @ 25C	3
MTBE by GCMS	3

4 Controlled Waters Risk Assessment

The assessment of risks to controlled waters follows guidance provided by the EA and DEFRA in the Contaminated Land (England) Regulations 2006 (SI 2006/1380) and consolidated regulations.

The controlled waters assessment should take into account the receptors that may be at risk. This could include groundwater in underlying aquifers, or nearby surface waters, or both. The generic assessment criteria (or Target Concentrations) used to assess the potential risks should then be selected based on the primary receptors of concern.

SOCOTEC understands that the water within the Royal Docks regularly mixes with water impounded from the River Thames as well as visa versa when water is taken from the Royal Docks to the River Thames. Reference to the DEFRA Magic Mapping Service, the site where samples 'KG' and 'AM' were collected from lies on a principal bedrock aquifer and a secondary (undifferentiated) superficial aquifer. Sample 'BA' was collected from the west of the site in a location not situated on a primary aquifer. The site is located within a groundwater vulnerability zone designated as 'medium – high' risk where samples 'KG' and 'AM' were collected from, and 'medium – low' risk in the location of where sample 'BA' was collected. The site is not situated within a nitrate vulnerable zone, source protection zone or a drinking water safeguard zone for surface or groundwater.

The closest surface water receptor is the River Thames located on the eastern boundary edge of the site.

Based on the above information, it is considered appropriate to compare the surface water results with published UK estuaries and coastal Environmental Quality Standards (EQS) where available for the tested pollutants (and where applicable for certain compounds the UK Drinking Water Standards (UKDWS) have been adopted) as shown in Table 2 below. It should be noted that no EQS data exists for total petroleum hydrocarbons (TPH) and TPH fractions and that only very limited EQS data exists for certain polycyclic aromatic hydrocarbons (PAH) fractions. The EQS assessment criteria are used for the protection of surface waters. It is acknowledged that the site is not located within a Source Protection Zone nor a UK Drinking Water protected area or safeguard zone, though in order to assess the risks to both surface waters and aquifers both criteria have been adopted.

Table 2 Comparison of surface water results against the EQS and UKDWS

Substance	Maximum Value (µg/l)	AA-EQS (µg/l)	MAC-EQS (µg/l)	UKDWS (µg/l)	Exceedances (No. samples tested)	Location of exceedances
Arsenic (dissolved)	2	25	-	10	0 (3)	
Cadmium (dissolved)	0.04	0.2 (>200 mg/l CaCO ₃)	1.5 (>200 mg/l CaCO ₃)	5	0 (3)	
Copper (dissolved)	3	3.76	-	2000	0 (3)	
Chromium (dissolved)	<1	-	-	50	0 (3)	

Chromium VI	<3	0.6	32	-	3 (3)*	KG, AM, BA
Lead (dissolved)	<1	1.3	14	10	0 (3)	
Mercury	<0.03	-	0.07	1	0 (3)	
Nickel (dissolved)	2	8.6	34	20	0 (3)	
Selenium ¹	<1	-	-	10	0 (3)	
Zinc (dissolved)	5	6.8	-	-	0 (3)	
Phenol	<50	7.7	46	-	3 (3)*	KG, AM, BA
Cyanide	<20	1	5	50	3 (3)*	KG, AM, BA
pH	7.9	-	6 – 8.5	6.5 - 9.5	0 (3)	
Polycyclic Aromatic Hydrocarbons (PAH)						
Anthracene	< 0.01	0.1	0.1	-	0 (3)	
Benzo(b)fluoranthene	< 0.01	0.00017	0.017	-	3 (3)*	KG, AM, BA
Benzo(ghi)perylene	< 0.01	0.00017	0.017	-	3 (3)*	KG, AM, BA
Benzo(k)fluoranthene	< 0.01	0.00017	0.017	-	3 (3)*	KG, AM, BA
Fluoranthene	< 0.01	0.0063	0.12	-	3 (3)*	KG, AM, BA
Indeno(1,2,3-cd)pyrene	< 0.01	0.00017	-	-	3 (3)*	KG, AM, BA
Napthalene	< 0.01	2	130	-	0 (3)	
PAH (sum of Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene)	< 0.16	-	-	0.1	3 (3)*	KG, AM, BA

* EQS lower than limit of laboratory detection

Chromium VI, phenol, various PAHs and total PAH also exceeded the relevant EQS assessment criteria, however, these are due to the EQS being lower than the limit of laboratory detection. Consequently, the recorded concentrations are not considered a risk to controlled waters. Cyanide was found to comply with EQS assessment criteria, however the LOD is less than the UKDWS and these levels are not considered to present a risk to controlled waters.

The concentrations of volatile organic compounds (VOCs) were all found to be below the laboratory limit of detection

In the absence of any published EQS data for TPH, the threshold values for dissolved or emulsified hydrocarbons as specified within Schedule 1 (Criteria for classification of waters) of The Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996 has been adopted, as shown in the table below;

Table 3 Summary of Total TPH against The Surface Waters Regulations

Limit values of Dissolved or emulsified hydrocarbons with Schedule 1 (mg/l)			Maximum Concentration mg/l (TPH aliphatic + TPH aromatic (C8-C40))
DW1	DW2	DW3	
0.05	0.2	1	0.04

The concentrations of TPH within the Royal Docks were consistent between all three samples and found to be below the Surface Water Regulations. The TPH detected was within the heavier aliphatic chain C21 – C35 range associated with diesel and heavy fuel oils and lubricating oils.

The biological oxygen demand was found to be consistent and low across the sampling locations, indicating a low organic matter load. Chemical oxygen demand was also found to be consistent across the sampling locations with levels found to be relatively low.

5 Conclusions

The water samples collected in the March 2021 quarterly monitoring period have shown that the water generally complied with the UK coastal and estuarine EQS threshold values for the majority of determinands tested. Very low concentrations of heavy range TPH was found across the docks but are not considered to be of significance. The results of the water samples indicate low levels contamination for the parameters tested and good water quality with respect to the biological and chemical oxygen demands at the docks.

The next water quality monitoring visit is scheduled for September 2021.

SOCOTEC trusts that this report meets your requirements, but please contact us should you require clarification on any of the matters raised. Thank you for your custom and we hope that we can be of further assistance to you in the future.

Yours faithfully,

for **SOCOTEC**



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Mark Hurcomb
 Principal Environmental Scientist
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References

CL:AIRE : 2017 : Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies.

DEFRA : 2014 : Water Framework Directive implementation in England and Wales : new and updated standards to protect the water environment.

DEFRA : 2016 : Estuaries and coastal waters specific pollutants and operational environmental quality standards (EQS).

DEFRA : 2020 : <https://magic.defra.gov.uk/MagicMap.aspx> (27/08/2020)

WHO : 2008 : Petroleum Products in Drinking-water, Background Document for development of WHO Guidelines for Drinking-water Quality.

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Whilst every effort has been made to ensure the accuracy of the data supplied and any analysis interpretation derived from it, the possibility exists of variations in the ground and groundwater conditions around and between the exploratory positions. No liability can be accepted for any such variations in these conditions. Furthermore, any recommendations are specific to the development as detailed in this Report and no liability will be accepted should they be used for the design of alternative schemes without prior consultant with SOCOTEC UK Limited.



Appendix A
Sample Location Plan

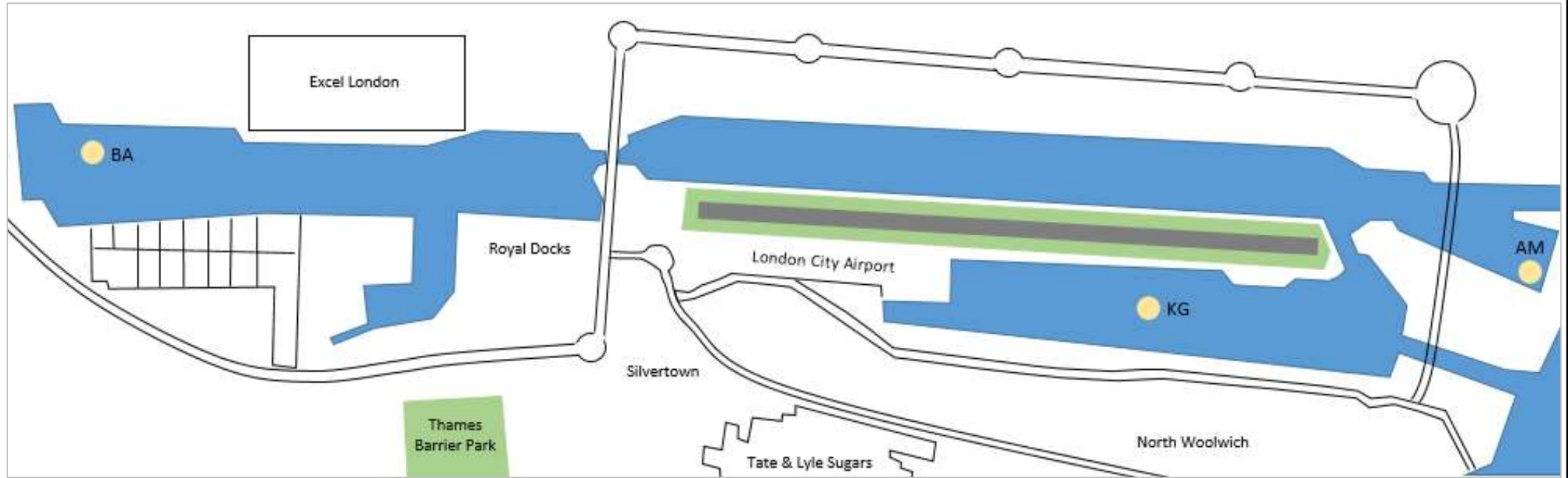



Figure not to scale

Legend to symbols:

 Surface water samples collected by SOCOTEC



Title

Sample Location Plan

Project

RoDMA- Royal Docks

Project No

R3053

Figure No

Figure 1

Appendix B
Laboratory Results



SOCOTEC

Environmental Chemistry
SOCOTEC UK
Ashby Rd, Bretby,
Burton-on-Trent, UK
DE15 0YZ

Certificate of Analysis

Project No: 21030828

Client: SOCOTEC Consultancy South

Quote Number: BEC210316720

Project Reference: R3053

Site Name: RoDMA Water Quality

Contact: Mark Hurcomb

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Hogwood Lane Industrial Estate
Finchampstead
Wokingham

Post Code: RG40 4QW

E-Mail: Mark.Hurcomb@socotec.com

Phone No: 01622 632 173

Number of Samples Received: 3

Date Received: 11/03/2021

Analysis Date: 18/03/2021

Date Issued: 18/03/2021

Job Status: Complete

Report Type: Final Version 01

This report supersedes any versions previously issued by the laboratory

Account Manager
Martin Elliott-Palmer

Authorised by the Operations Manager
Becky Batham



Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Samples Analysed

<u>Sample Reference</u>	<u>Text ID</u>	<u>Sample Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
KG	21030828-001	09/03/2021 09:30:00	WATER	Surface Water
AM	21030828-002	09/03/2021 09:55:00	WATER	Surface Water
BA	21030828-003	09/03/2021 10:30:00	WATER	Surface Water



Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Analysis Results

Project ID	21030828		
Sample ID	001	002	003
Customer ID	KG	AM	BA
Sample Type	WATER	WATER	WATER
Sampling Date	09/03/2021	09/03/2021	09/03/2021
Accred			

Analysis	Method Code	MDL	Units	Accred	001	002	003
Ammoniacal Nitrogen as N	KONENS	0.01	mg/l	U	0.03	0.03	0.04
>C6-C7 Aliphatic	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100	<0.100
>C7-C8 Aliphatic	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100	<0.100
>C7-C8 Aromatic	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005	<0.005	<0.005
>C8-C10 Aliphatic	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100	<0.100
>C8-C10 Aromatic	GROHSA/BTEXHSA	0.02	mg/l	U	<0.020	<0.020	<0.020
C5-C6 Aliphatic	GROHSA/BTEXHSA	0.1	mg/l	N	<0.100	<0.100	<0.100
C5-C7 Aromatic	GROHSA/BTEXHSA	0.005	mg/l	U	<0.005	<0.005	<0.005
Total GRO C5-C10	GROHSA/BTEXHSA	0.1	mg/l	U	<0.100	<0.100	<0.100
Conductivity at 25°C	WSLM2 & 3	100	µS/cm	U	5750	5730	5920
pH	WSLM2 & 3	1	pH units	U	7.9	7.9	7.9
Total Suspended Solids	WSLM10	5	mg/l	U	7	6	<5
TDS as mg/L	WSLM27	5	mg/l	N	3680	3660	3810
Chloride as Cl	KONENS	1	mg/l	U	1690	1680	1760
Chromium (VI) as Cr	KONENS	0.003	mg/l	U	<0.003	<0.003	<0.003
Nitrate as N	KONENS	0.2	mg/l	U	6.9	6.8	6.8
Orthophosphate as P	KONENS	0.01	mg/l	N	0.60	0.60	0.61
Total Cyanide	SFAPI	0.02	mg/l	U	<0.02	<0.02	<0.02
COD (Settled)	WSLM11	5	mg/l	U	19	18	19
BOD (5 day)	WSLM20	1	mg O2/l	U	<1.0	1.1	1.2
Arsenic as As	ICPMSW (Dissolved)	0.001	mg/l	U	0.002	0.002	0.002
Cadmium as Cd	ICPMSW (Dissolved)	0.00002	mg/l	U	0.00004	0.00002	0.00004
Total Chromium as Cr	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001	<0.001
Copper as Cu	ICPMSW (Dissolved)	0.001	mg/l	U	0.003	0.003	0.003



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Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Analysis Results

Project ID	21030828		
Sample ID	001	002	003
Customer ID	KG	AM	BA
Sample Type	WATER	WATER	WATER
Sampling Date	09/03/2021	09/03/2021	09/03/2021

Analysis	Method Code	MDL	Units	Accred			
Lead as Pb	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001	<0.001
Mercury as Hg	ICPMSW (Dissolved)	0.00003	mg/l	U	<0.00003	<0.00003	<0.00003
Nickel as Ni	ICPMSW (Dissolved)	0.001	mg/l	U	0.002	0.002	0.002
Selenium as Se	ICPMSW (Dissolved)	0.001	mg/l	U	<0.001	<0.001	<0.001
Zinc as Zn	ICPMSW (Dissolved)	0.002	mg/l	U	0.005	0.005	0.004
Arsenic as As	ICPMSWT (Total)	0.001	mg/l	U	0.002	0.002	0.002
Cadmium as Cd	ICPMSWT (Total)	0.00002	mg/l	U	0.00006	0.00005	<0.00002
Total Chromium as Cr	ICPMSWT (Total)	0.001	mg/l	U	<0.001	<0.001	<0.001
Copper as Cu	ICPMSWT (Total)	0.001	mg/l	U	0.003	0.003	0.003
Lead as Pb	ICPMSWT (Total)	0.001	mg/l	U	<0.001	<0.001	<0.001
Nickel as Ni	ICPMSWT (Total)	0.001	mg/l	U	0.002	0.002	0.002
Selenium as Se	ICPMSWT (Total)	0.001	mg/l	U	<0.001	<0.001	<0.001
Mercury as Hg	ICPMSWT (Total)	0.00003	mg/l	U	<0.00003	<0.00003	<0.00003
Zinc as Zn	ICPMSWT (Total)	0.002	mg/l	U	0.008	0.007	0.011
Calcium Hardness as CaCO3	ICPWATVAR (Dissolved)	2.5	mg/l	U	270	277	276
MTBE	BTEXHSA	10	µg/l	U	<10	<10	<10
Benzene	BTEXHSA	5	µg/l	U	<5	<5	<5
Ethylbenzene	BTEXHSA	5	µg/l	U	<5	<5	<5
m/p-Xylene	BTEXHSA	10	µg/l	U	<10	<10	<10
o-Xylene	BTEXHSA	5	µg/l	U	<5	<5	<5
Toluene	BTEXHSA	5	µg/l	U	<5	<5	<5
Acenaphthene	PAHMSW	0.01	µg/l	U	<0.01*	<0.01*	<0.01*
Acenaphthylene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Anthracene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01



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Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Analysis Results

Project ID	21030828		
Sample ID	001	002	003
Customer ID	KG	AM	BA
Sample Type	WATER	WATER	WATER
Sampling Date	09/03/2021	09/03/2021	09/03/2021

Analysis	Method Code	MDL	Units	Accred			
Benzo[a]anthracene	PAHMSW	0.01	µg/l	U	<0.01*	<0.01*	<0.01*
Benzo[a]pyrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Benzo[b]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Benzo[g,h,i]perylene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Benzo[k]fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Chrysene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Dibenzo[a,h]anthracene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Fluoranthene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Fluorene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Indeno[1,2,3-cd]pyrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Naphthalene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Phenanthrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Pyrene	PAHMSW	0.01	µg/l	U	<0.01	<0.01	<0.01
Total PAH 16	PAHMSW	0.16	µg/l	U	<0.16	<0.16	<0.16
Dimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05	<0.05
Methylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05	<0.05
Phenol	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05	<0.05
Total Phenols	PHEHPLCUV	0.2	mg/l	U	<0.20	<0.20	<0.20
Trimethylphenols	PHEHPLCUV	0.05	mg/l	U	<0.05	<0.05	<0.05
>C10-C12 (Aliphatic)	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
>C12-C16 (Aliphatic)	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
>C16-C21 (Aliphatic)	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
>C21-C35 (Aliphatic)	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01	0.02
Total TPH >C8-C40 (Aliphatic)	TPHFID (Aliphatic)	0.01	mg/l	U	<0.01	<0.01	0.03





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Project Name: RoDMA Water Quality

Project No: 21030828

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Analysis Results

Project ID	21030828		
Sample ID	001	002	003
Customer ID	KG	AM	BA
Sample Type	WATER	WATER	WATER
Sampling Date	09/03/2021	09/03/2021	09/03/2021

Analysis	Method Code	MDL	Units	Accred			
>C10-C12 (Aromatic)	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
>C12-C16 (Aromatic)	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
>C16-C21 (Aromatic)	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
>C21-C35 (Aromatic)	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
Total TPH >C8-C40 (Aromatic)	TPHFID (Aromatic)	0.01	mg/l	U	<0.01	<0.01	<0.01
1,1,1,2-Tetrachloroethane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,1,1-Trichloroethane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,1,2,2-Tetrachloroethane	VOCHSAW	1	µg/l	N	<1	<1	<1
1,1,2-Trichloroethane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,1-Dichloroethane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,1-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1	<1
1,1-Dichloropropene	VOCHSAW	1	µg/l	U	<1	<1	<1
1,2,3-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5	<5
1,2,3-Trichloropropane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,2,4-Trichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5	<5
1,2,4-Trimethylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
1,2-Dibromo-3-chloropropane	VOCHSAW	5	µg/l	U	<5	<5	<5
1,2-Dibromoethane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,2-Dichlorobenzene	VOCHSAW	5	µg/l	U	<5	<5	<5
1,2-Dichloroethane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,2-Dichloropropane	VOCHSAW	1	µg/l	U	<1	<1	<1
1,3,5-Trimethylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
1,3-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
1,3-Dichloropropane	VOCHSAW	1	µg/l	N	<1	<1	<1





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Project Name: RoDMA Water Quality

Project No: 21030828

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Analysis Results

Project ID	21030828		
Sample ID	001	002	003
Customer ID	KG	AM	BA
Sample Type	WATER	WATER	WATER
Sampling Date	09/03/2021	09/03/2021	09/03/2021

Analysis	Method Code	MDL	Units	Accred			
1,4-Dichlorobenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
2,2-Dichloropropane	VOCHSAW	1	µg/l	N	<1	<1	<1
2-Chlorotoluene	VOCHSAW	1	µg/l	U	<1	<1	<1
4-Chlorotoluene	VOCHSAW	1	µg/l	U	<1	<1	<1
Benzene	VOCHSAW	1	µg/l	U	<1	<1	<1
Bromobenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
Bromochloromethane	VOCHSAW	1	µg/l	U	<1	<1	<1
Bromodichloromethane	VOCHSAW	1	µg/l	U	<1	<1	<1
Bromoform	VOCHSAW	1	µg/l	U	<1	<1	<1
Bromomethane	VOCHSAW	5	µg/l	N	<5	<5	<5
Carbon Tetrachloride	VOCHSAW	1	µg/l	U	<1	<1	<1
Chlorobenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
Chloroethane	VOCHSAW	5	µg/l	U	<5	<5	<5
Chloroform	VOCHSAW	5	µg/l	U	<5	<5	<5
Chloromethane	VOCHSAW	1	µg/l	U	<1	<1	<1
cis 1,2-Dichloroethene	VOCHSAW	5	µg/l	U	<5	<5	<5
cis 1,3-Dichloropropene	VOCHSAW	1	µg/l	N	<1	<1	<1
Dibromochloromethane	VOCHSAW	1	µg/l	U	<1	<1	<1
Dibromomethane	VOCHSAW	1	µg/l	U	<1	<1	<1
Dichlorodifluoromethane	VOCHSAW	1	µg/l	N	<1	<1	<1
Ethylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
Hexachlorobutadiene	VOCHSAW	5	µg/l	U	<5	<5	<5
iso-Propylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
m and p-Xylene	VOCHSAW	1	µg/l	U	<1	<1	<1



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Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Analysis Results

Project ID	21030828		
Sample ID	001	002	003
Customer ID	KG	AM	BA
Sample Type	WATER	WATER	WATER
Sampling Date	09/03/2021	09/03/2021	09/03/2021

Analysis	Method Code	MDL	Units	Accred			
MTBE	VOCHSAW	1	µg/l	N	<1	<1	<1
Naphthalene	VOCHSAW	5	µg/l	U	<5	<5	<5
n-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
o-Xylene	VOCHSAW	1	µg/l	U	<1	<1	<1
p-Isopropyltoluene	VOCHSAW	1	µg/l	U	<1	<1	<1
Propylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
sec-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
Styrene	VOCHSAW	1	µg/l	U	<1	<1	<1
tert-Butylbenzene	VOCHSAW	1	µg/l	U	<1	<1	<1
Tetrachloroethene	VOCHSAW	5	µg/l	U	<5	<5	<5
Toluene	VOCHSAW	1	µg/l	U	<1	<1	<1
trans 1,2-Dichloroethene	VOCHSAW	1	µg/l	U	<1	<1	<1
trans 1,3-Dichloropropene	VOCHSAW	1	µg/l	U	<1	<1	<1
Trichloroethene	VOCHSAW	5	µg/l	U	<5	<5	<5
Trichlorofluoromethane	VOCHSAW	1	µg/l	U	<1	<1	<1
Vinyl Chloride	VOCHSAW	1	µg/l	U	<1	<1	<1



Additional Report Notes

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
PAHMSW	001-003	The Secondary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. However the remaining data gives the Laboratory confidence that the test has performed satisfactorily (including the Primary Process Control) and that the validity of the data may not have been significantly affected. However in line with our QMS policy we have removed accreditation , where applicable, from the affected analytes (Benzo[a]anthracene & Acenaphthene) . These circumstances should be taken into consideration when utilising the data.

LIMS-F002 - Report Notes



Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Deviating Sample Report			Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
Sample Reference	Text ID	Reported Name						

Analysis Method

<u>Analysis</u>	<u>Analysis Type</u>	<u>Analysis Method</u>
BTEXHSA	ORGANIC	Unfiltered
GROHSA	ORGANIC	Unfiltered
GROHSA/BTEXHSA	ORGANIC	
ICPMSW (Dissolved)	METALS	Filtered
ICPMSWT (Total)	METALS	Unfiltered
ICPWATVAR (Dissolved)	METALS	Filtered
KONENS	INORGANIC	Filtered
PAHMSW	ORGANIC	Unfiltered
PHEHPLCUV	ORGANIC	Unfiltered
SFAPI	INORGANIC	Unfiltered
TPHFID (Aliphatic)	ORGANIC	Unfiltered
TPHFID (Aromatic)	ORGANIC	Unfiltered
VOCHSAW	ORGANIC	Unfiltered
WSLM09	INORGANIC	Filtered
WSLM10	INORGANIC	Unfiltered
WSLM11	INORGANIC	Unfiltered
WSLM2 & 3	INORGANIC	Unfiltered
WSLM20	INORGANIC	
WSLM27	INORGANIC	Filtered



Client: SOCOTEC Consultancy South

Project Name: RoDMA Water Quality

Project No: 21030828

Date Issued: 18/03/2021

Additional Information

This report refers to samples as received, and SOCOTEC Uk Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

In the accreditation column of analysis report the codes are as follows:

- U = UKAS accredited analysis
- M = MCERT accredited analysis
- N = Unaccredited analysis

Any units marked with ^ signify results are reported on a dry weight basis of 105° c

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full and with approval from the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any samples marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with ‡ have had MCERTS accreditation removed for this result

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

- IS = Insufficient Sample to complete analysis
- NA = Sample is not amenable for the required analysis
- ND = Results cannot be determined

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the Subcontracted lab for information regarding any deviancies for this analysis.

End of Certificate of Analysis