



CERTIFICATE OF ANALYSIS

Work Order	: ST2437548	Page	: 1 of 5
Client	: Matis ohf	Project	: ----
Contact	: Hrólfur Sigurdsson	Purchase Number	: ST2437548
Address	: Food Research, inn. and safety Vinlandsleid 12 -113 Reykjavik Iceland	Sampler	: ----
E-mail	: hrolfur@matís.is	Site	: ----
Telephone	: 3544225000	Date Samples Received	: 2024-09-27 11:00
C-O-C number	: ----	Date Analysis Commenced	: 2024-09-27
Quote number	: HL2020SE-MAT-OHF0001 (OF191270)	Issue Date	: 2024-10-14 11:18
		No. of samples received	: 1
		No. of samples analysed	: 1

General Comments

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Workorder Comments

Should a sample contain sediment it is decanted prior to volatile compounds determination.

Signatories	Position
Niina Veuro	Laboratory Manager

Niina Veuro



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Analytical Results

Client sample ID **R24-2264-1/NVoP/Vopnafjörður, neysluvatn, vatnstankur**
 Laboratory sample ID **ST2437548-001**
 Client sampling date / time **2024-09-27**
 Sub-Matrix **DRINKING WATER**

Parameter	Result	MU	Unit	LOR	Method	Issuer
Halogenated Volatile Organic Compounds						
OV-10						
Chloroform	<0.10	----	µg/L	0.10	W-VOCGMS01	PR
Bromoform	<0.20	----	µg/L	0.20	W-VOCGMS01	PR
Dibromochloromethane	<0.10	----	µg/L	0.10	W-VOCGMS01	PR
Bromodichloromethane	<0.10	----	µg/L	0.10	W-VOCGMS01	PR
Sum of 4 Trihalomethanes (M1)	<0.250	----	µg/L	0.250	W-VOCGMS01	PR
Sample Pre-Preparation						
V-2-S						
Stabilisation	Yes *	----	-	-	W-PPV-S	LE
Total Metals/Major Cations						
V-2						
Aluminum	3.64	± 0.55	µg/L	0.2	W-SFMS-5A	LE
Arsenic	0.0798	± 0.0150	µg/L	0.05	W-SFMS-5A	LE
Barium	0.0481	± 0.0082	µg/L	0.01	W-SFMS-5A	LE
Cadmium	<0.002	----	µg/L	0.002	W-SFMS-5A	LE
Calcium	5.83	± 0.73	mg/L	0.1	W-AES-1A	LE
Chromium	0.214	± 0.032	µg/L	0.01	W-SFMS-5A	LE
Cobalt	<0.005	----	µg/L	0.005	W-SFMS-5A	LE
Copper	0.478	± 0.071	µg/L	0.1	W-SFMS-5A	LE
Iron	0.00326	± 0.00067	mg/L	0.0004	W-SFMS-5A	LE
Lead	0.0713	± 0.0106	µg/L	0.01	W-SFMS-5A	LE
Magnesium	1.50	± 0.18	mg/L	0.09	W-AES-1A	LE
Manganese	0.0737	± 0.0174	µg/L	0.03	W-SFMS-5A	LE
Mercury	<0.002	----	µg/L	0.002	W-AFS-17V2	LE
Molybdenum	0.0802	± 0.0127	µg/L	0.05	W-SFMS-5A	LE
Nickel	<0.05	----	µg/L	0.05	W-SFMS-5A	LE
Phosphorus	26.4	± 4.3	µg/L	1	W-SFMS-5A	LE
Potassium	<0.4	----	mg/L	0.4	W-AES-1A	LE
Silicon	6.33	± 0.74	mg/L	0.03	W-AES-1A	LE
Sodium	5.91	± 0.71	mg/L	0.1	W-AES-1A	LE
Strontium	5.43	± 0.77	µg/L	2	W-AES-1A	LE
Vanadium	5.88	± 0.87	µg/L	0.005	W-SFMS-5A	LE
Zinc	1.76	± 0.31	µg/L	0.2	W-SFMS-5A	LE
V-2-ADD						
Boron	<10	----	µg/L	10	W-AES-1A	LE
V-2-Bas-ADD						
Antimony	0.0159	± 0.0064	µg/L	0.01	W-SFMS-5A	LE
Lithium	0.0745	----	µg/L	0.050	W-SFMS-5A	LE
Selenium	<0.3	----	µg/L	0.3	W-SFMS-5A	LE
V-2-S						
Sulfur	0.472	± 0.056	mg/L	0.2	W-AES-1A	LE
BTEX						
OV-5A						
Benzene	<0.2	----	µg/L	0.2	HS-OV-21	ST



Parameter	Result	MU	Unit	LOR	Method	Issuer
BTEX - Continued						
OV-5A - Continued						
Toluene	<0.2	----	µg/L	0.2	HS-OV-21	ST
Ethylbenzene	<0.2	----	µg/L	0.2	HS-OV-21	ST
Sum of Xylenes	<0.2	----	µg/L	0.2	HS-OV-21	ST
Polycyclic Aromatics Hydrocarbons (PAHs)						
GRV-PAH						
Naphthalene	<0.0070	----	µg/L	0.0070	W-PAHGMS04	PR
Acenaphthylene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Acenaphthene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Fluorene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Phenanthrene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Anthracene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Fluoranthene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Pyrene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Benzo(a)anthracene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Chrysene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Benzo(b)fluoranthene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Benzo(k)fluoranthene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Benzo(a)pyrene	<0.0010	----	µg/L	0.0010	W-PAHGMS04	PR
Indeno(1.2.3.cd)pyrene	<0.00030	----	µg/L	0.00030	W-PAHGMS04	PR
Benzo(g,h,i)perylene	<0.00030	----	µg/L	0.00030	W-PAHGMS04	PR
Dibenz(a,h)anthracene	<0.00060	----	µg/L	0.00060	W-PAHGMS04	PR
Sum of carcinogenic PAH (M1)	<0.00295	----	µg/L	0.00295	W-PAHGMS04	PR
Sum of PAH L (M1)	<0.00450	----	µg/L	0.00450	W-PAHGMS04	PR
Sum of PAH M (M1)	<0.00250	----	µg/L	0.00250	W-PAHGMS04	PR
Sum of PAH H (M1)	<0.00310	----	µg/L	0.00310	W-PAHGMS04	PR
Sum of 16 PAH (M1)	<0.0101	----	µg/L	0.101	W-PAHGMS04	PR
Sum of other PAH (M1)	<0.00715	----	µg/L	0.00715	W-PAHGMS04	PR
Nonmetallic Inorganic Parameters						
Ammonium i vatten						
Ammonia and ammonium ions as NH ₄	<0.050	----	mg/L	0.050	W-NH4-SPC	PR
Ammonia and ammonium ions as N	<0.040	----	mg/L	0.040	W-NH4-SPC	PR
Cyanid (total) i vatten						
Total Cyanide	<0.0010	----	mg/L	0.001	Cyanid_7937,10	HU
Nitrat i vatten (0,01 mg)						
Nitrate as N	0.0076	0.01	mg/L	0.002	W-SPC-NO3/HUM	HU
Nitrate	0.034	0.04	mg/L	0.01	W-SPC-NO3/HUM	HU
Nitrit i vatten						
Nitrites	<0.010	----	mg/L	0.010	Nitrit-N	ST
Nitrite as N	<0.002	----	mg/L	0.002	Nitrit-N	ST
Halogenated Volatile Organic Compounds						
OV-6B						
Dichloromethane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
1.1-Dichloroethane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
1.2-Dichloroethane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
trans-1.2-Dichloroethene	<0.1	----	µg/L	0.1	HS-OV-6b	ST
cis-1.2-Dichloroethene	<0.1	----	µg/L	0.1	HS-OV-6b	ST
1.2-Dichloropropane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
Chloroform	<0.1	----	µg/L	0.1	HS-OV-6b	ST
Tetrachloromethane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
1.1.1-Trichloroethane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
1.1.2-Trichloroethane	<0.1	----	µg/L	0.1	HS-OV-6b	ST
Trichloroethene	<0.1	----	µg/L	0.1	HS-OV-6b	ST



Parameter	Result	MU	Unit	LOR	Method	Issuer
Halogenated Volatile Organic Compounds - Continued						
OV-6B - Continued						
Tetrachloroethene	<0.1	----	µg/L	0.1	HS-OV-6b	ST
Vinyl chloride	<0.1	----	µg/L	0.1	HS-OV-6b	ST
1.1-Dichloroethene	<0.1	----	µg/L	0.1	HS-OV-6b	ST
Physical Parameters						
Färg						
Colour (True)	25.7	± 7.7	mgPt/l	5.0	W-COL-SPC	PR
Fluorid i vatten						
Fluoride	<0.10	----	mg/L	0.10	Fluorid	ST
Klorid i vatten						
Chloride	6.2	± 1.5	mg/L	4.0	Klorid	ST
Sulfat i vatten						
Sulfate	<4.0	----	mg/L	4.0	Sulfat	ST
TOC i vatten						
Total Organic Carbon	0.84	± 0.34	mg/L	0.50	W-TOC	ST

The end of result part of the certificate of analysis

Brief Method Summaries

Analytical Methods	Method Reference
W-AES-1A	Determination of metals in fresh water, pool and drinking water by ICP-AES according to SS-EN ISO 11885:2009 and US EPA Method 200.7:1994. Samples are acidified with 1 ml high purity nitric acid per 100 ml prior to analysis. No digestion.
W-AFS-17V2	Determination of mercury (Hg) in natural water by AFS according to SS-EN ISO 17852:2008. Samples are acidified with 1 ml high purity nitric acid per 100 ml prior to analysis. No digestion.
W-PPV-S*	Stabilisation with H2O2 prior to W-AES-1A (SE-SOP-0259).
W-SFMS-5A	Determination of metals in freshwater, pool and drinking water by ICP-SFMS according to SS-EN ISO 17294-2:2023 and US EPA Method 200.8:1994. Samples are acidified with 1 ml high purity nitric acid per 100 ml prior to analysis. No digestion.
Cyanid_7937,10	Determination of cyanid total according to DS/EN ISO 14403-2:2012.
W-SPC-NO3/HUM	Determination of nitrate according to DS 223:1991
W-COL-SPC	CZ_SOP_D06_02_079 (CSN EN ISO 7887) Determination of colour by spectrophotometry.
W-NH4-SPC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, SM 4500-NO2-, SM 4500-NO3-) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-PAHGMS04	CZ_SOP_D06_03_161 (US EPA Method 8270D; US EPA Method 8082A; ČSN EN ISO 6468; US EPA Method 8000D) Determination of semi volatile organic compounds by gas chromatography method with MS or MS/MS detection and calculation of semi volatile organic compounds sums from measured values
W-VOCGMS01	CZ_SOP_D06_03_155 (US EPA Method 624, US EPA Method 5021A, US EPA Method 8260, US EPA 8015, CSN EN ISO 10301, MADEP 2004, rev. 1.1, CSN ISO 11423, CSN EN ISO 15680) Determination of volatile organic compounds by gas chromatography method with FID and MS detection and calculation of volatile organic compounds sums from measured values.
Fluorid	Determination of fluoride in water by electrochemical probe method according to ISO 10359-1:1992, utg. 1
HS-OV-21	Measurement performed with headspace GC-MS according to EPA method 5021a rev. 2 update V.
HS-OV-6b	Determination of Chlorinated aliphatics (Low LOQ) in water with HS-GC-MS according to SS-EN ISO 10301:1997
Klorid	Determination of chloride in water with photometric detection according to SS-EN ISO 15923-1:2013 Utg1
Nitrit-N	Determination of nitrite nitrogen according to ISO 15923-1:2013 (discrete analysis). Filtration through 0.45 µm filter is included in the method. Sample for the determination of nitrite nitrogen should arrive to the laboratory as soon as possible after sampling, because this parameter is time-sensitive. The determination should be done within 24 hours after sampling according to SS-EN ISO 5667-3.
Sulfat	Determination of sulfate in water with photometric detection according to SS-EN ISO 15923-1:2013 Utg1
W-TOC	Determination of TOC in water with combustion and IR according to SS-EN 1484:1997 ed 1.



Key: **LOR** = Limit of reporting represents the standard LOR for the respective parameters in each method. Note that limits of reporting may be affected if, e.g. additional dilution was required because of matrix effects, or the sample quantity was limited.

MU = Measurement Uncertainty

* = Symbol succeeding any result indicates laboratory or subcontractor non-accredited test.

Measurement Uncertainty:

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which give level of approximately 95%. Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

Issuing lab

	<i>Issuer</i>
HU	<i>The analysis is provided by ALS Denmark A/S, Bakkegårdsvej 406A Humlebæk Denmark 3050 Accredited by: DANAK Accreditation Number: 361</i>
LE	<i>The analysis is provided by ALS Scandinavia AB Luleå, Aurorum 10 Luleå Sweden 977 75 Accredited by: SWEDAC Accreditation Number: 2030, ISO/IEC 17025</i>
PR	<i>The analysis is provided by ALS Czech Republic, s.r.o., Na Harfe 336/9 Prague 9 - Vysocany Czech Republic 190 00 Accredited by: CAI Accreditation Number: 1163, CSN EN ISO/IEC 17025:2018</i>
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