Report

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Project
Reference

Analysis of drinking water

Your ID	**R17-2566-1/5053/As-3/ Vatnsveita Vatnsholti**
LabID	O10927462

Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
Ca	**11.2**	0.9	mg/l	1	R	MB
Fe	**0.00234**	0.00067	mg/l	1	H	MB
K	**1.07**	0.08	mg/l	1	R	MB
Mg	**6.19**	0.40	mg/l	1	R	MB
Na	**12.9**	0.9	mg/l	1	R	MB
Si	**10.5**	0.7	mg/l	1	R	MB
Al	**10.5**	2.0	µg/l	1	H	MB
As	**<0.05**		µg/l	1	H	MB
Ba	**0.0609**	0.0135	µg/l	1	H	MB
Cd	**<0.002**		µg/l	1	H	MB
Co	**0.00869**	0.00446	µg/l	1	H	MB
Cr	**0.187**	0.038	µg/l	1	H	MB
Cu	**0.551**	0.100	µg/l	1	H	MB
Hg	**<0.002**		µg/l	1	F	MB
Mn	**0.0690**	0.0390	µg/l	1	H	MB
Mo	**0.144**	0.029	µg/l	1	H	MB
Ni	**0.0835**	0.0300	µg/l	1	H	MB
P	**59.4**	11.6	µg/l	1	H	MB
Pb	**0.0125**	0.0032	µg/l	1	H	MB
Sr	**38.4**	3.8	µg/l	1	R	MB
Zn	**0.459**	0.176	µg/l	1	H	MB
V	**21.8**	4.0	µg/l	1	H	MB
Sb	**<0.01**		µg/l	2	H	MB
B	**<10**		µg/l	2	R	MB
S	**0.844**	0.074	mg/l	2	R	MB
Se	**<0.5**		µg/l	2	H	MB
benzene	**<0.20**		µg/l	3	1	MB
toluene	**<0.20**		µg/l	3	1	MB
ethylbenzene	**<0.10**		µg/l	3	1	MB
m,p-xylene	**<0.20**		µg/l	3	1	MB
o-xylene	**<0.10**		µg/l	3	1	MB
xylenes, sum*	**<0.15**		µg/l	3	1	MB
dichloromethane	**<2.0**		µg/l	4	1	MB
1,1-dichloroethane	**<0.10**		µg/l	4	1	MB
1,2-dichloroethane	**<0.50**		µg/l	4	1	MB
trans-1,2-dichloroethene	**<0.10**		µg/l	4	1	MB
cis-1,2-dichloroethene	**<0.10**		µg/l	4	1	MB
1,2-dichloropropane	**<1.0**		µg/l	4	1	MB
tetrachloromethane	**<0.10**		µg/l	4	1	MB
1,1,1-trichloroethane	**<0.10**		µg/l	4	1	MB

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LabID	O10927462

Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
1,1,2-trichloroethane	**<0.20**		µg/l	4	1	MB
trichloroethene	**<0.10**		µg/l	4	1	MB
tetrachloroethene	**<0.20**		µg/l	4	1	MB
vinylchloride	**<1.0**		µg/l	4	1	MB
1,1-dichloroethene	**<0.10**		µg/l	4	1	MB
trichloromethane	**<0.30**		µg/l	5	1	MB
tribromomethane	**<0.20**		µg/l	5	1	MB
dibromochloromethane	**<0.10**		µg/l	5	1	MB
bromodichloromethane	**<0.10**		µg/l	5	1	MB
trihalomethanes, sum*	**<0.35**		µg/l	5	1	MB
naphthalene	**<0.20**		µg/l	6	1	MB
acenaphthylene	**<0.10**		µg/l	6	1	MB
acenaphthene	**<0.0070**		µg/l	6	1	MB
fluorene	**<0.010**		µg/l	6	1	MB
phenanthrene	**<0.040**		µg/l	6	1	MB
anthracene	**<0.0050**		µg/l	6	1	MB
fluoranthene	**<0.0050**		µg/l	6	1	MB
pyrene	**<0.0050**		µg/l	6	1	MB
benzo(a)anthracene	**<0.0030**		µg/l	6	1	MB
chrysene	**<0.0070**		µg/l	6	1	MB
benzo(b)fluoranthene	**<0.0040**		µg/l	6	1	MB
benzo(k)fluoranthene	**<0.0020**		µg/l	6	1	MB
benzo(a)pyrene	**<0.0020**		µg/l	6	1	MB
dibenzo(ah)anthracene	**<0.0020**		µg/l	6	1	MB
benzo(ghi)perylene	**<0.0030**		µg/l	6	1	MB
indeno(123cd)pyrene	**<0.0030**		µg/l	6	1	MB
PAH, sum 16*	**<0.20**		µg/l	6	1	MB
PAH, sum carcinogenic*	**<0.012**		µg/l	6	1	MB
PAH, sum non carcinogenic*	**<0.20**		µg/l	6	1	MB
PAH, sum 4*	**<0.0060**		µg/l	6	1	MB
PAH, sum L*	**<0.20**		µg/l	6	1	MB
PAH, sum M*	**<0.033**		µg/l	6	1	MB
PAH, sum H*	**<0.013**		µg/l	6	1	MB
ammonium	**<0.026**		mg/l	7	1	MB
ammonium nitrogen	**<0.020**		mg/l	7	1	MB
chloride	**10.8**	1.62	mg/l	8	1	MB
sulphate	**2.16**	0.324	mg/l	9	1	MB
TOC	**<0.50**		mg/l	10	1	MB
nitrate	**1.92**	0.27	mg/l	11	2	STGR
nitrate nitrogen	**0.434**	0.069	mg/l	11	2	STGR
nitrite	**<0.01**		mg/l	12	3	JEME
colour	**<5**		mgPt/l	13	J	JEME
CN total	**<0.005**		mg/l	14	1	MB
fluoride	**<0.200**		mg/l	15	1	MB

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* indicates unaccredited analysis.

	Method specification
1	Package V-2. Determination of metals without digestion. The measurement was carried out according to EPA-method 200.7(mod), SS EN ISO 11885(mod) (ICP-AES) and EPA-method 200.8(mod), SS EN ISO 17294-1,2(mod) (ICP-SFMS). Analysis of Hg with AFS according to SS-EN ISO 17852:2008. Special information for added metals to the package: W; the sample must not be acidified prior to analysis. S; the sample has been stabilized with H2O2. Rev 2015-06-25
2	Additional metals
3	Package OV-5. Determination of monocyclic aromatics (BTEX) according to method based on US EPA 624, US EPA 8260, EN ISO 10301, MADEP 2004, rev. 1.1. Measurement is performed with GC-FID and GC-MS. Rev 2013-09-19
4	Package OV-6. Determination of chlorinated aliphates including vinylchloride according to method based on US EPA 624, US EPA 8260, EN ISO 10301, MADEP 2004, rev.1.1.. The measurement is performed with GC-FID and GC-MS. Rev 2013-09-18
5	Package OV-10. Determination of trihalomethanes according to a method based on US EPA 624, US EPA 8260, EN ISO 10301, MADEP 2004, rev.1.1. The measurement is performed with GC-FID and GC-MS. Rev 2013-09-19
6	Package OV-1. Determination of polycyclic aromatic hydrocarbons, PAH (EPA-16) according to method based on US EPA 550 The measurement is performed by HPLC with flourescence and PDA detection. PAH carcinogenic are benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenzo(ah)anthracene and indeno(1,2,3-c,d)pyrene. Sum 4 PAH: benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene and benzo(g,h,i)perylene Sum PAH L: naphtalene, acenaphtene and acenaphtylene. Sum PAH M: fluorene, phenanthrene, anthracene, fluoranthene and pyrene Sum PAH H: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene) Rev 2013-09-24
7	Spectrophotometric determination of ammonium NH_4,low LOQ, according to method based on CSN EN ISO 11732, CSN EN ISO 13395, CSN EN 13370 and CSN EN 12506. The method includes filtration of turbid samples. Rev 2013-09-18
8	Determination of chloride using ion chromatography according to CSN EN ISO 10304-1.

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	Method specification
	The method includes filtration of turbid samples. Rev 2012-05-28
9	Determination of sulfate with low LOQ, using ion chromatography according to a method based on CSN ISO 10304-1&2. The method includes filtration of turbid samples. Rev 2013-03-14
10	Determination of TOC with IR detection according to method based on CSN EN 1484 and CSN EN 13370. The method includes filtration of turbid samples. Rev 2014-11-24
11	Determination of nitrate, NO_3 according to SS-EN ISO 10304-1. The measurement is performed with ion chromatography. Rev 2014-03-03
12	Determination of nitrite nitrogen according to SS-EN ISO 13395-1 (FIA). 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. Uncertainty (k=2) Clean water: ±11% at 0.01 mg N/l ±9% at 0.05 mg N/l and ±13% at 0.2 mg N/l Waste water: ±12% at 0.01 mg N/l and ±10% at 0.05 mg N/l and ±13% at 0.2 mg N/l Rev 2017-03-01
13	Determination of colour according to SS-EN ISO 7887 edition 2, method C. Photometric determination at 410 nm after filtration. Uncertainty (k=2): ±16% at 20 mg Pt/l and ±14% at 100 mg Pt/l Rev 2017-03-20
14	Spectrophotometric determination of total cyanide according to method based on TNV 757415. Rev 2013-09-19
15	Determination of fluoride using ion chromatography according to CSN ISO 10304-1 and CSN EN 12506. The method includes filtration of turbid samples. Rev 2013-09-17

	Approver
JEME	Jenny Melkersson
MB	Maria Bigner
STGR	Sture Grägg

	Issuer[1]

[1] The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

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F	The determination is performed using AFS The analysis is provided by ALS Scandinavia AB, Aurorum 10, 977 75 Luleå, Sweden, which is a testing laboratory, accredited by the Swedish accreditation body SWEDAC (Reg.No. 2030).
H	The determination is performed using ICP-SFMS The analysis is provided by ALS Scandinavia AB, Aurorum 10, 977 75 Luleå, Sweden, which is a testing laboratory, accredited by the Swedish accreditation body SWEDAC (Reg.No. 2030).
J	The analysis is provided by ALS Scandinavia AB, Box 700, 182 17 Danderyd, which is accredited by the Swedish accreditation body SWEDAC (Reg.No. 2030).
R	The determination is performed using ICP-AES The analysis is provided by ALS Scandinavia AB, Aurorum 10, 977 75 Luleå, Sweden, which is a testing laboratory, accredited by the Swedish accreditation body SWEDAC (Reg.No. 2030).
1	The analysis is provided by ALS Laboratory Group, Na Harfê 9/336, 190 00, Prag 9, Czech Rebublic, which is a testing laboratory, accredited by the Czech accreditation body CAI (Reg.No 1163). CAI is a signatory to a MLA within EA, the same LA to which the Swedish accreditation body SWEDAC is also a signatory. The laboratories are located in; Prague, Na Harfê 9/336, 190 00, Praha 9, Ceska Lipa, Bendlova 1687/7, 470 01 Ceska Lipa, Pardubice, V Raji 906, 530 02 Pardubice. Contact the laboratory for further information.
2	The analysis is provided by AK Lab AB, Getängsvägen 29, 504 68 Borås, Sweden, which is a testing laboratory, accredited by the Swedish accreditation body SWEDAC (Reg.No. 1790).
3	The analysis is provided by ALS Scandinavia AB, Box 700, 182 17 Danderyd, which is accredited by the Swedish accreditation body SWEDAC (Reg.No. 2030).

The uncertainty is given as extended uncertainty (according to the definition in ”Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence 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.