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T1319898

2D0ILC2SFY9



Project
Reference
Registered **2013-11-29**
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ICELAND

Analysis of drinking water

Your ID	R13-2885-1/HRUN-11-13					
LabID	O10556653					
Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
colour	<5		mgPt/l	1	1	EMPA
nitrite	<0.01		mg/l	2	1	MISW
nitrate	0.0841	0.012	mg/l	3	2	STGR
ammonium	<0.026		mg/l	4	3	INRO
chloride	5.22	1.04	mg/l	5	3	INRO
sulphate	1.96	0.294	mg/l	6	3	INRO
TOC	1.00	0.20	mg/l	7	3	INRO
fluoride	<0.200		mg/l	8	3	INRO
CN total	<0.005		mg/l	9	3	AKR
benzene	<0.20		µg/l	10	3	AKR
toluene	<1.00		µg/l	10	3	AKR
ethylbenzene	<0.10		µg/l	10	3	AKR
m,p-xylene	<0.20		µg/l	10	3	AKR
o-xylene	<0.10		µg/l	10	3	AKR
xylenes, sum*	<0.15		µg/l	10	3	AKR
dichloromethane	<2.0		µg/l	11	3	AKR
1,1-dichloroethane	<0.10		µg/l	11	3	AKR
1,2-dichloroethane	<0.50		µg/l	11	3	AKR
trans-1,2-dichloroethene	<0.10		µg/l	11	3	AKR
cis-1,2-dichloroethene	<0.10		µg/l	11	3	AKR
1,2-dichloropropane	<1.0		µg/l	11	3	AKR
tetrachloromethane	<0.10		µg/l	11	3	AKR
1,1,1-trichloroethane	<0.10		µg/l	11	3	AKR
1,1,2-trichloroethane	<0.20		µg/l	11	3	AKR
trichloroethene	<0.10		µg/l	11	3	AKR
tetrachloroethene	<0.20		µg/l	11	3	AKR
vinylchloride	<1.0		µg/l	11	3	AKR
trichloromethane	<0.30		µg/l	12	3	AKR
tribromomethane	<0.20		µg/l	12	3	AKR
dibromochloromethane	<0.10		µg/l	12	3	AKR
bromodichloromethane	<0.10		µg/l	12	3	AKR
trihalomethanes, sum*	<0.35		µg/l	12	3	AKR
naphthalene	<0.20		µg/l	13	3	AKR
acenaphthylene	<0.10		µg/l	13	3	AKR
acenaphthene	<0.0070		µg/l	13	3	AKR
fluorene	<0.010		µg/l	13	3	AKR
phenanthrene	<0.040		µg/l	13	3	AKR
anthracene	<0.0050		µg/l	13	3	AKR
fluoranthene	<0.0050		µg/l	13	3	AKR
pyrene	<0.0050		µg/l	13	3	AKR

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Your ID	R13-2885-1/HRUN-11-13					
LabID	O10556653					
Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
benzo(a)anthracene	<0.0030		µg/l	13	3	AKR
chrysene	<0.0070		µg/l	13	3	AKR
benzo(b)fluoranthene	<0.0040		µg/l	13	3	AKR
benzo(k)fluoranthene	<0.0020		µg/l	13	3	AKR
benzo(a)pyrene	<0.0020		µg/l	13	3	AKR
dibenzo(ah)anthracene	<0.0020		µg/l	13	3	AKR
benzo(ghi)perylene	<0.0030		µg/l	13	3	AKR
indeno(123cd)pyrene	<0.0030		µg/l	13	3	AKR
PAH, sum 16*	<0.20		µg/l	13	3	AKR
PAH, sum carcinogenic*	<0.012		µg/l	13	3	AKR
PAH, sum non carcinogenic*	<0.19		µg/l	13	3	AKR
PAH, sum 4*	<0.0060		µg/l	13	3	AKR
PAH, sum L*	<0.15		µg/l	13	3	AKR
PAH, sum M*	<0.033		µg/l	13	3	AKR
PAH, sum H*	<0.013		µg/l	13	3	AKR
Ca	4.83	0.37	mg/l	14	R	STGR
Fe	0.0020	0.0006	mg/l	14	H	STGR
K	0.567	0.045	mg/l	14	R	STGR
Mg	0.559	0.038	mg/l	14	R	STGR
Na	10.6	0.7	mg/l	14	R	STGR
Si	10.1	0.6	mg/l	14	R	STGR
Al	3.59	0.85	µg/l	14	H	STGR
As	0.0830	0.0606	µg/l	14	H	STGR
Ba	<0.01		µg/l	14	H	STGR
Cd	<0.002		µg/l	14	H	STGR
Co	<0.005		µg/l	14	H	STGR
Cr	0.121	0.043	µg/l	14	H	STGR
Cu	0.390	0.088	µg/l	14	H	STGR
Hg	<0.002		µg/l	14	F	STGR
Mn	0.109	0.063	µg/l	14	H	STGR
Mo	0.186	0.049	µg/l	14	H	STGR
Ni	<0.05		µg/l	14	H	STGR
P	31.0	5.9	µg/l	14	H	STGR
Pb	0.0138	0.0084	µg/l	14	H	STGR
Sr	4.57	0.48	µg/l	14	R	STGR
Zn	1.17	0.25	µg/l	14	H	STGR
V	15.5	2.8	µg/l	14	H	STGR
Sb	<0.01		µg/l	15	H	STGR
B	<10		µg/l	15	R	STGR
Se	<0.5		µg/l	15	H	STGR
S	0.704	0.058	mg/l	15	R	STGR

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* indicates unaccredited analysis.

Method specification	
1	Determination of colour according to SS-EN ISO 7887 edition 2, method D. Uncertainty (k=2): $\pm 14\%$ at 20 mg Pt/l <small>Rev 2013-05-08</small>
2	Determination of nitrite nitrogen according to SS-EN ISO 13395-1 (FIA). Filtration through 0.45 μm filter is included in the method. Uncertainty (k=2) Clean water: $\pm 10\%$ at 0.01 mg N/l $\pm 9\%$ at 0.05 mg N/l and $\pm 8\%$ at 0.2 mg N/l Waste water: $\pm 11\%$ at 0.01 mg N/l and $\pm 10\%$ at 0.05 mg N/l and $\pm 9\%$ at 0.2 mg N/l <small>Rev 2013-05-10</small>
3	Determination of nitrate, NO_3 according to SS-EN ISO 10304-1. The measurement is performed with ion chromatography. <small>Rev 2011-02-08</small>
4	Determination of ammonium, low LOQ, using FIA and spectrophotometric detector according to CSN ISO 11732. Filtration of turbid samples is included in the method.
5	Determination of chloride using ion chromatography according to CSN EN ISO 10304-1. The method includes filtration of turbid samples. <small>Rev 2012-05-28</small>
6	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. <small>Rev 2013-03-14</small>
7	Determination of TOC according to method based on CSN EN 1484.
8	Determination of fluoride using ion chromatography according to method based on CSN ISO 10304-01. The method includes filtration of turbid samples. <small>Rev 2012-02-15</small>
9	Determination of total cyanide according to method based on CSN 75 7415. <small>Rev 2012-02-07</small>
10	Package OV-5. Determination of monocyclic aromatics (BTEX) according to method based on US EPA 624 and 8260 Measurement is performed with head-space GC-MS. <small>Rev 2013-01-21</small>
11	Package OV-6. Determination of chlorinated aliphates including vinylchloride according to US EPA 624 & 8260. The measurement is performed with head-space GC-MS. <small>Rev 2013-01-21</small>
12	Package OV-10. Determination of trihalomethanes according to a method based on EPA 601 and EPA 624. The measurement is performed with GC-MS.

Method specification	
13	<p>Package OV-1. Determination of polycyclic aromatic hydrocarbons, PAH (EPA-16) by HPLC with both UV and PDA detection.</p> <p>PAH carcinogenic are benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenzo(ah)anthracene and indeno(123cd)pyrene.</p> <p>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) According to new directives from Swedish EPA, October 2008.</p> <p><small>Rev 2013-01-18</small></p>
14	<p>Package V-2. Determination of metals without digestion. The measurement was carried out according to EPA-methods 200.7 (ICP-AES) and 200.8 (ICP-SFMS). Analysis of Hg with AFS according to SS-EN ISO 17852:2008.</p> <p>Special information for added metals to the package: W; the sample must not be acidified prior to analysis. Se; the sample has been digested with HCl in 120° for 30 min S; the sample has been stabilized with H2O2.</p> <p><small>Rev 2011-03-24</small></p>
15	Additional metals

	Approver
AKR	Anna-Karin Revell
EMPA	Emma Palmqvist
INRO	Ingalill Rosén
MISW	Miryam Swartling
STGR	Sture Grägg

Issuer ¹	
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).
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 technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

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Issuer ¹	
1	The analysis is provided by ALS Scandinavia AB, Box 511, 183 25 Täby, which is accredited by the Swedish accreditation body SWEDAC (Reg.No. 2030).
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 Laboratory Group, Na Harfê 9/336, 190 00, Prag 9, Czech Republic, 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 03 Ceska Lipa, Pardubice, V Raji 906, 530 02 Pardubice. Contact the laboratory for further information.

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Uncertainty in Measurement", ISO, Geneva, Switzerland 1993) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.

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

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