

# Report

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## T1409194

10OTRAJN1K



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Project  
Reference

### Analysis of drinking water

Your ID	R14-1170-1/SH-1/Samuelslind						
LabID	O10592901						
Analysis	Results	Uncertainty ( $\pm$ )	Unit	Method	Issuer	Sign	
Ca	5.83	0.45	mg/l	1	R	FREN	
Fe	0.00181	0.00059	mg/l	1	H	FREN	
K	0.764	0.062	mg/l	1	R	FREN	
Mg	2.52	0.17	mg/l	1	R	FREN	
Na	11.0	0.8	mg/l	1	R	FREN	
Si	11.4	0.7	mg/l	1	R	FREN	
Al	1.27	0.60	$\mu$ g/l	1	H	FREN	
As	<0.05		$\mu$ g/l	1	H	FREN	
Ba	0.0289	0.0152	$\mu$ g/l	1	H	FREN	
Cd	<0.002		$\mu$ g/l	1	H	FREN	
Co	0.00942	0.01000	$\mu$ g/l	1	H	FREN	
Cr	0.199	0.042	$\mu$ g/l	1	H	FREN	
Cu	0.199	0.041	$\mu$ g/l	1	H	FREN	
Hg	<0.002		$\mu$ g/l	1	F	FREN	
Mn	0.134	0.063	$\mu$ g/l	1	H	FREN	
Mo	0.200	0.055	$\mu$ g/l	1	H	FREN	
Ni	<0.05		$\mu$ g/l	1	H	FREN	
P	27.3	5.5	$\mu$ g/l	1	H	FREN	
Pb	<0.01		$\mu$ g/l	1	H	FREN	
Sr*	1.55		$\mu$ g/l	1	S	FREN	
Zn	<0.2		$\mu$ g/l	1	H	FREN	
V	8.41	1.49	$\mu$ g/l	1	H	FREN	
Sb	<0.01		$\mu$ g/l	2	H	FREN	
B*	5.31		$\mu$ g/l	2	S	FREN	
Se	<0.5		$\mu$ g/l	2	H	FREN	
S	0.910	0.060	mg/l	3	R	FREN	
benzene	<0.20		$\mu$ g/l	4	1	FREN	
toluene	<0.20		$\mu$ g/l	4	1	FREN	
ethylbenzene	<0.20		$\mu$ g/l	4	1	FREN	
m,p-xylene	<0.20		$\mu$ g/l	4	1	FREN	
o-xylene	<0.20		$\mu$ g/l	4	1	FREN	
xylenes, sum*	<0.20		$\mu$ g/l	4	1	FREN	
dichloromethane	<2.0		$\mu$ g/l	5	1	FREN	
1,1-dichloroethane	<0.10		$\mu$ g/l	5	1	FREN	
1,2-dichloroethane	<0.10		$\mu$ g/l	5	1	FREN	
trans-1,2-dichloroethene	<0.10		$\mu$ g/l	5	1	FREN	
cis-1,2-dichloroethene	<0.10		$\mu$ g/l	5	1	FREN	
1,2-dichloropropane	<1.0		$\mu$ g/l	5	1	FREN	
tetrachloromethane	<0.10		$\mu$ g/l	5	1	FREN	
1,1,1-trichloroethane	<0.10		$\mu$ g/l	5	1	FREN	

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Your ID	R14-1170-1/SH-1/Samuelslind					
LabID	O10592901					
Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
1,1,2-trichloroethane	<0.20		µg/l	5	1	FREN
trichloroethene	<0.10		µg/l	5	1	FREN
tetrachloroethene	<0.20		µg/l	5	1	FREN
vinylchloride	<1.0		µg/l	5	1	FREN
naphthalene	<0.20		µg/l	6	1	FREN
acenaphthylene	<0.10		µg/l	6	1	FREN
acenaphthene	<0.0070		µg/l	6	1	FREN
fluorene	<0.010		µg/l	6	1	FREN
phenanthrene	<0.040		µg/l	6	1	FREN
anthracene	<0.0050		µg/l	6	1	FREN
fluoranthene	<0.0050		µg/l	6	1	FREN
pyrene	<0.0050		µg/l	6	1	FREN
benzo(a)anthracene	<0.0030		µg/l	6	1	FREN
chrysene	<0.0070		µg/l	6	1	FREN
benzo(b)fluoranthene	<0.0040		µg/l	6	1	FREN
benzo(k)fluoranthene	<0.0020		µg/l	6	1	FREN
benzo(a)pyrene	<0.0020		µg/l	6	1	FREN
dibenzo(ah)anthracene	<0.0020		µg/l	6	1	FREN
benzo(ghi)perylene	<0.0030		µg/l	6	1	FREN
indeno(123cd)pyrene	<0.0030		µg/l	6	1	FREN
PAH, sum 16*	<0.20		µg/l	6	1	FREN
PAH, sum carcinogenic*	<0.012		µg/l	6	1	FREN
PAH, sum non carcinogenic*	<0.19		µg/l	6	1	FREN
PAH, sum 4*	<0.0060		µg/l	6	1	FREN
PAH, sum L*	<0.15		µg/l	6	1	FREN
PAH, sum M*	<0.033		µg/l	6	1	FREN
PAH, sum H*	<0.013		µg/l	6	1	FREN
trichloromethane	<0.30		µg/l	7	1	FREN
tribromomethane	<0.20		µg/l	7	1	FREN
dibromochloromethane	<0.10		µg/l	7	1	FREN
bromodichloromethane	<0.10		µg/l	7	1	FREN
trihalomethanes, sum*	<0.35		µg/l	7	1	FREN
ammonium	<0.026		mg/l	8	1	FREN
chloride	6.75	1.01	mg/l	9	1	FREN
sulphate	2.49	0.374	mg/l	10	1	FREN
TOC	<0.50		mg/l	11	1	FREN
fluoride	<0.200		mg/l	12	1	FREN
CN total	<0.005		mg/l	13	1	FREN
nitrate	0.0797	0.011	mg/l	14	2	ULKA
nitrite	<0.01		mg/l	15	3	MAEL
colour	5		mgPt/l	16	3	MAEL

\* indicates unaccredited analysis.

Method specification	
1	<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. S; the sample has been stabilized with H<sub>2</sub>O<sub>2</sub>.</p> <p>Rev 2014-01-23</p>
2	Additional metals
3	<p>Determination of S, Sulfur, without previous digestion. Stabilisation with H<sub>2</sub>O<sub>2</sub>. The sample has been acidified with 1 ml nitric acid (Suprapur) per 100 ml. This is not done if the sample was already acidified previous to the arrival at the laboratory. Analysis has been performed accordingly to EPA-methods (modified) 200.7 (ICP-AES) or 200.8 (ICP-SFMS).</p> <p>Rev 2012-01-19</p>
4	<p>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.</p> <p>Rev 2013-09-19</p>
5	<p>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.</p> <p>Rev 2013-09-18</p>
6	<p>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 fluorescence 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(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</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)</p> <p>Rev 2013-09-24</p>
7	<p>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.</p>

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Method specification	
	The measurement is performed with GC-FID and GC-MS.  Rev 2013-09-19
8	Spectrophotometric determination of ammonium NH <sub>4</sub> , 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
9	Determination of chloride using ion chromatography according to CSN EN ISO 10304-1. The method includes filtration of turbid samples.  Rev 2012-05-28
10	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
11	Determination of TOC with IR detection according to method based on CSN EN 1484 and CSN EN 13370.  Rev 2013-09-17
12	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
13	Spectrophotometric determination of total cyanide according to method based on TNV 757415.  Rev 2013-09-19
14	Determination of nitrate, NO <sub>3</sub> according to SS-EN ISO 10304-1. The measurement is performed with ion chromatography. Rev 2014-03-03
15	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: ±11% at 0.01 mg N/l ±9% at 0.05 mg N/l and ±9% at 0.2 mg N/l Waste water: ±12% at 0.01 mg N/l and ±10% at 0.05 mg N/l and ±10% at 0.2 mg N/l  Rev 2014-05-30
16	Determination of colour according to SS-EN ISO 7887 edition 2, method D.  Uncertainty (k=2): ±14% at 20 mg Pt/l  Rev 2013-05-08

Approver	
FREN	Fredrik Enzell
MAEL	Matthew Ellis
ULKA	Ulrika Karlsson

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	<b>Approver</b>

	<b>Issuer<sup>1</sup></b>
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).
S	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).
1	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.
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 511, 183 25 Täby, 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", 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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<sup>1</sup> The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.