

Foundry Sand –seminaari 27.4.2017

UKK-instituutti

Ympäristövaikutusten mittaukset

Seppo Heinänen
AX-Suunnittelu











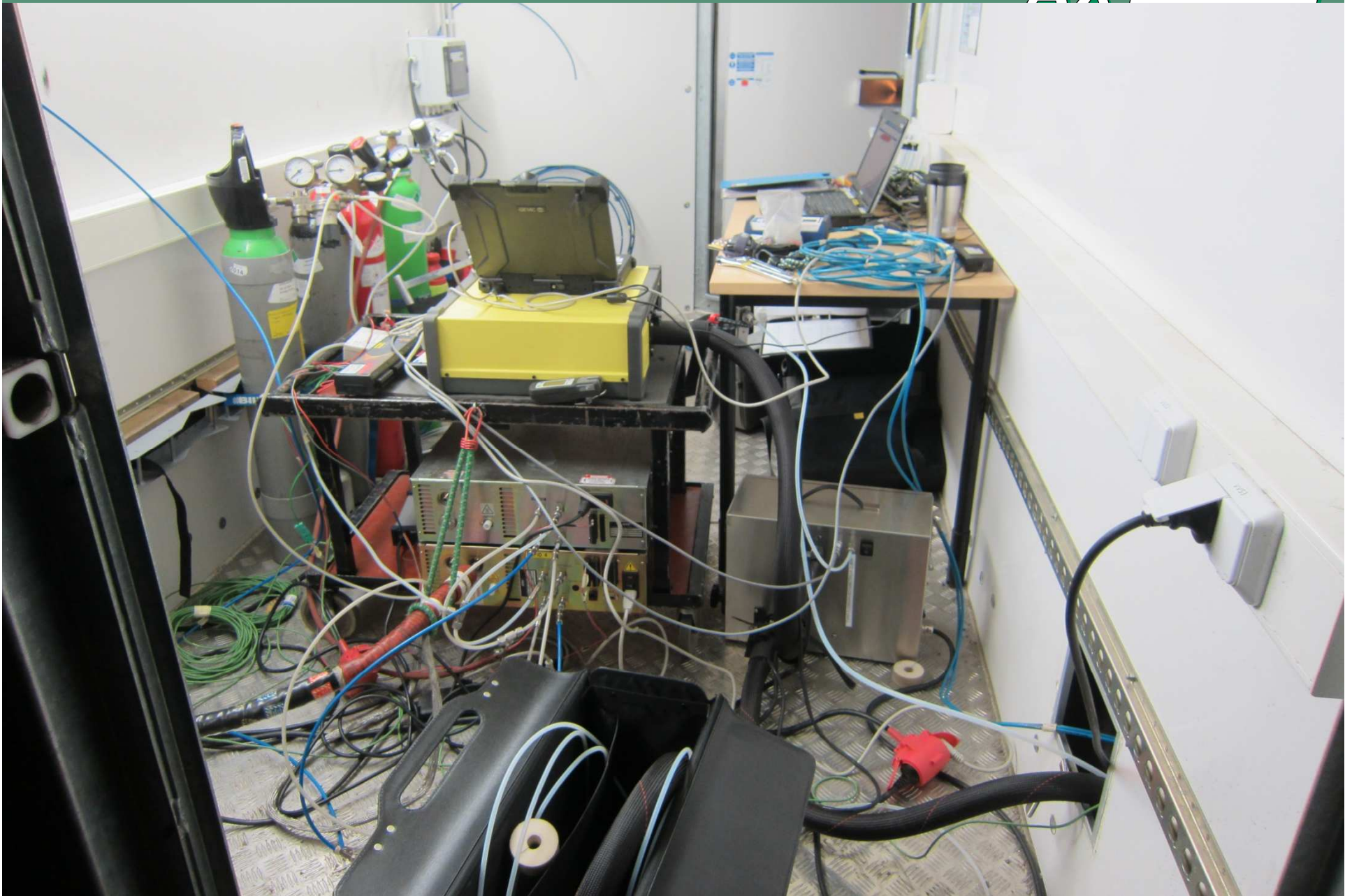










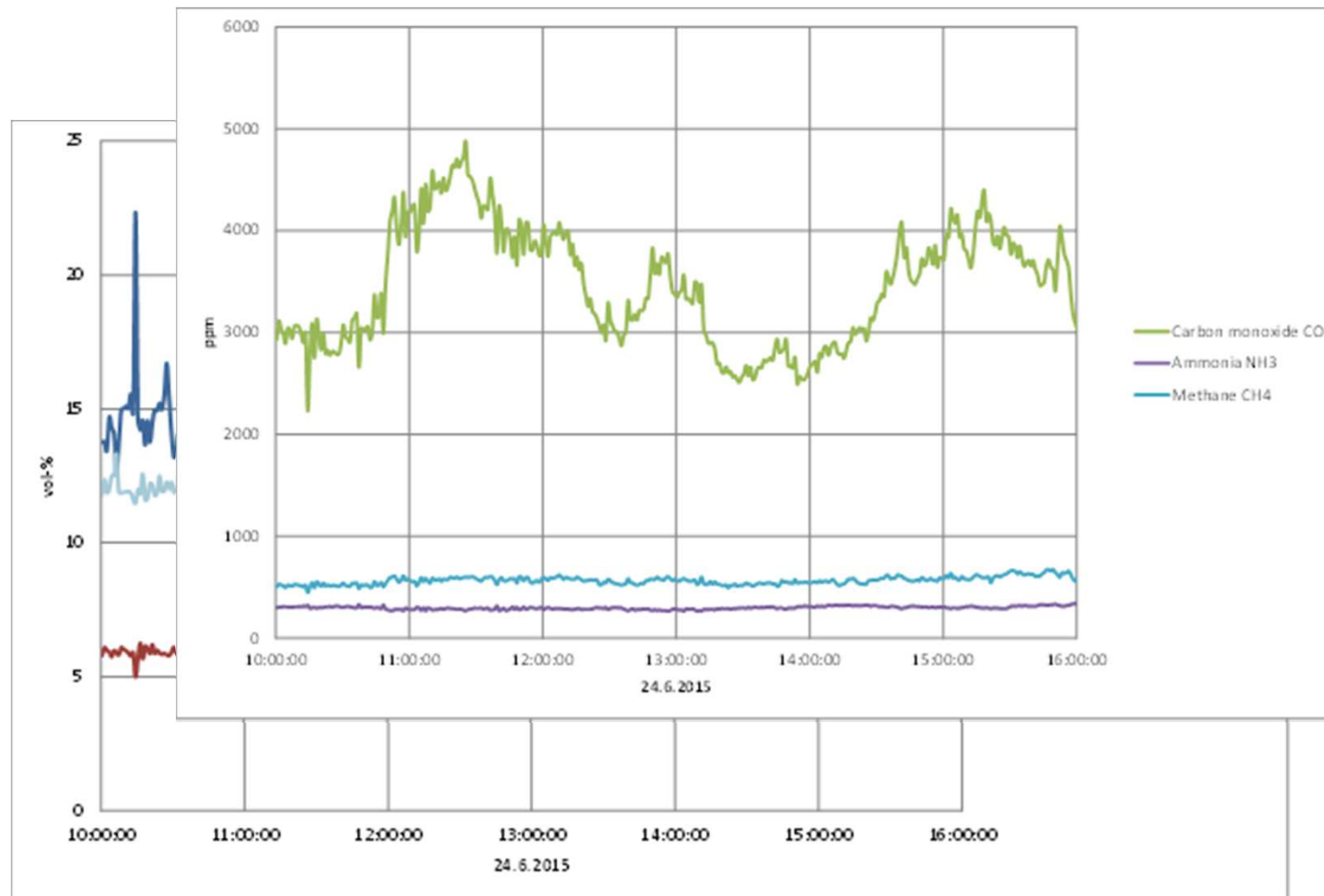




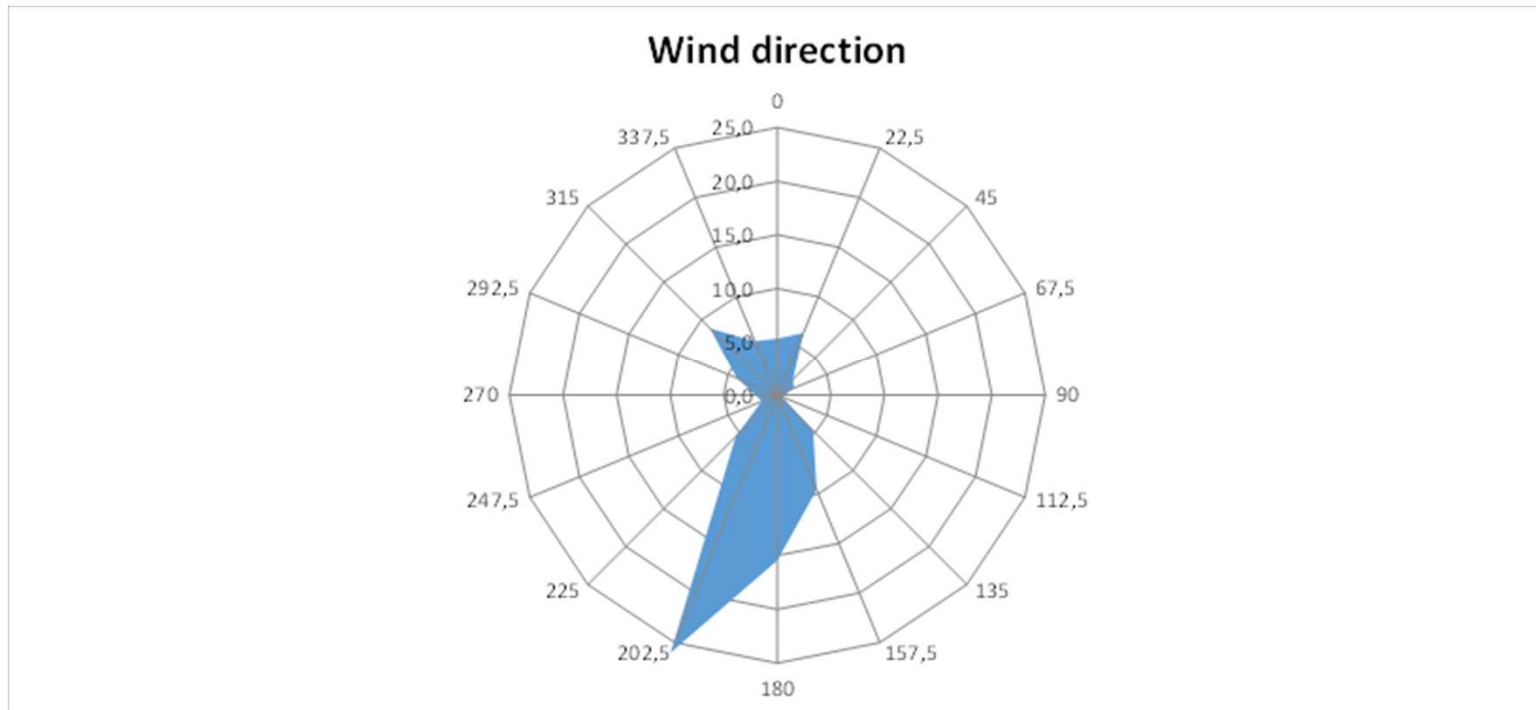


FTIR	Water vapor H ₂ O	12,6	4,0	1,6	%
		101	32	13	g/m ³
	Carbon dioxide CO ₂	6,4	1,5	0,2	%
	Oxygen	11,4	18,3	20,3	%
	Carbon monoxide CO	3 447	854	17	ppm
	Ammonia NH ₃	298	8,7	0,1	ppm
	Methane CH ₄	562	17,2	1,6	ppm
	Ethane C ₂ H ₆	47,3	0,4	0,1	ppm
	Ethylene C ₂ H ₄	0,9	0,1	0,0	ppm
	Hexane C ₆ H ₁₄	0,2	0,5	0,2	ppm
	Formaldehyde CHO	19,7	5,9	0,7	ppm
	Phenol C ₆ H ₅ OH	0,0	0,0	0,1	ppm
	Ethanol C ₂ H ₆ O	0,0	0,5	0,0	ppm
	alpha-Pinene C ₁₀ H ₁₆	3,0	0,0	0,0	ppm
	beta-Pinene C ₁₀ H ₁₆	3,0	0,0	0,1	ppm
	Delta3-Carene C ₁₀ H ₁₆	0,0	0,0	0,1	ppm
	Acetaldehyde C ₂ H ₄ O	0,0	0,0	0,8	ppm
	Butyl aldehyde C ₄ H ₈ O	0,0	0,0	0,2	ppm
	Sample	Formaldehyde	<0,02	<0,004	<0,005
Total aldehydes		0,21	0,02	0,01	mg/Nm ³
Ammonia		142	2,6	0,1	mg/Nm ³
Total hydrocarbon+methane+ethane		501	17,3	2,8	mg/Nm ³
Total PAH		<0,04	<0,04	<0,00	mg/Nm ³
Phenol		0,04	<0,04	<0,05	mg/Nm ³
Particle		1,07	0,06		mg/Nm ³
FID	Total hydrocarbon	826	17,6	0,0	ppm
Olfactometer	Odour	26 008	724	128	OU _E /Nm ³
Pitot	Air flow	2,9	5,0	2,1	Nm ³ /h
Termoelement	Temperature	50,8	33,7	7,4	°C

Esimerkki mittauskäyristä

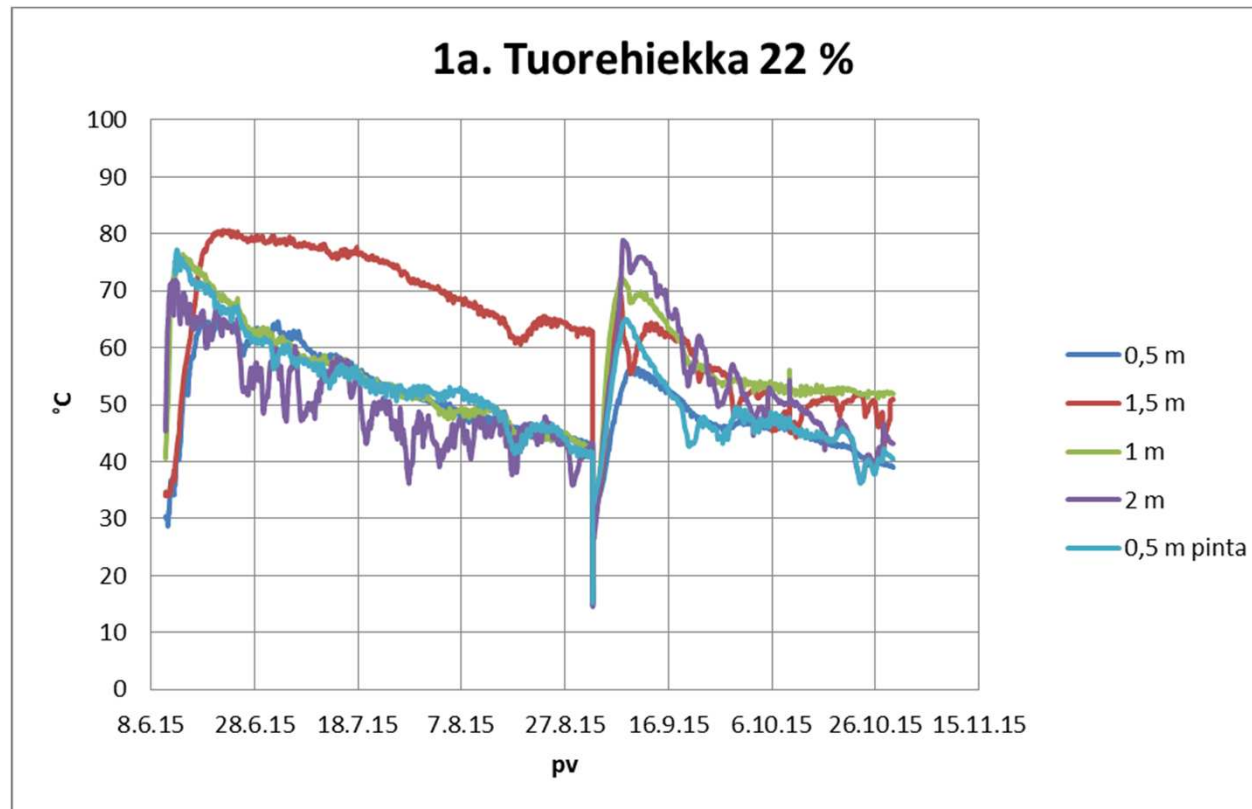


Tuulen suunta

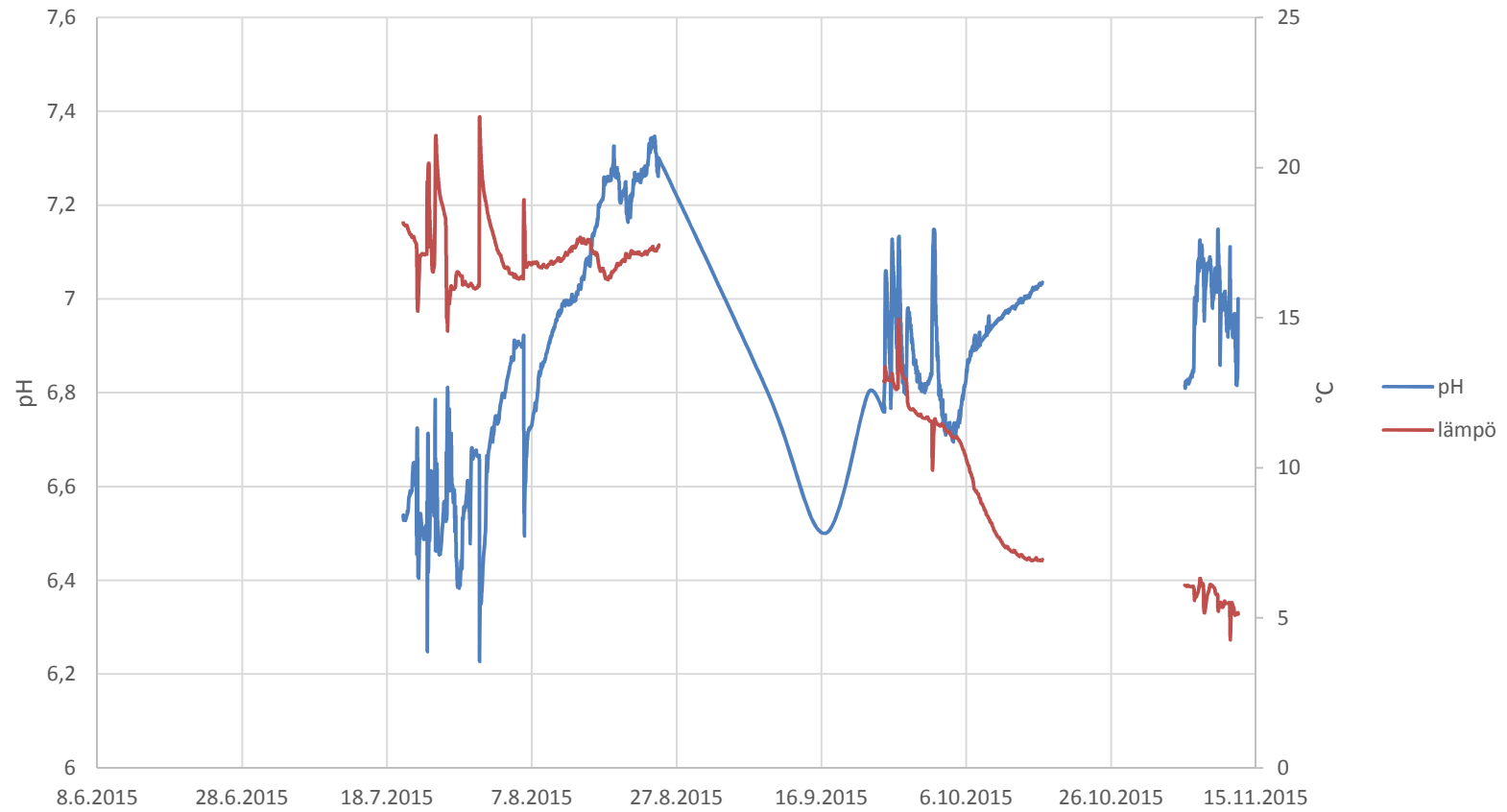


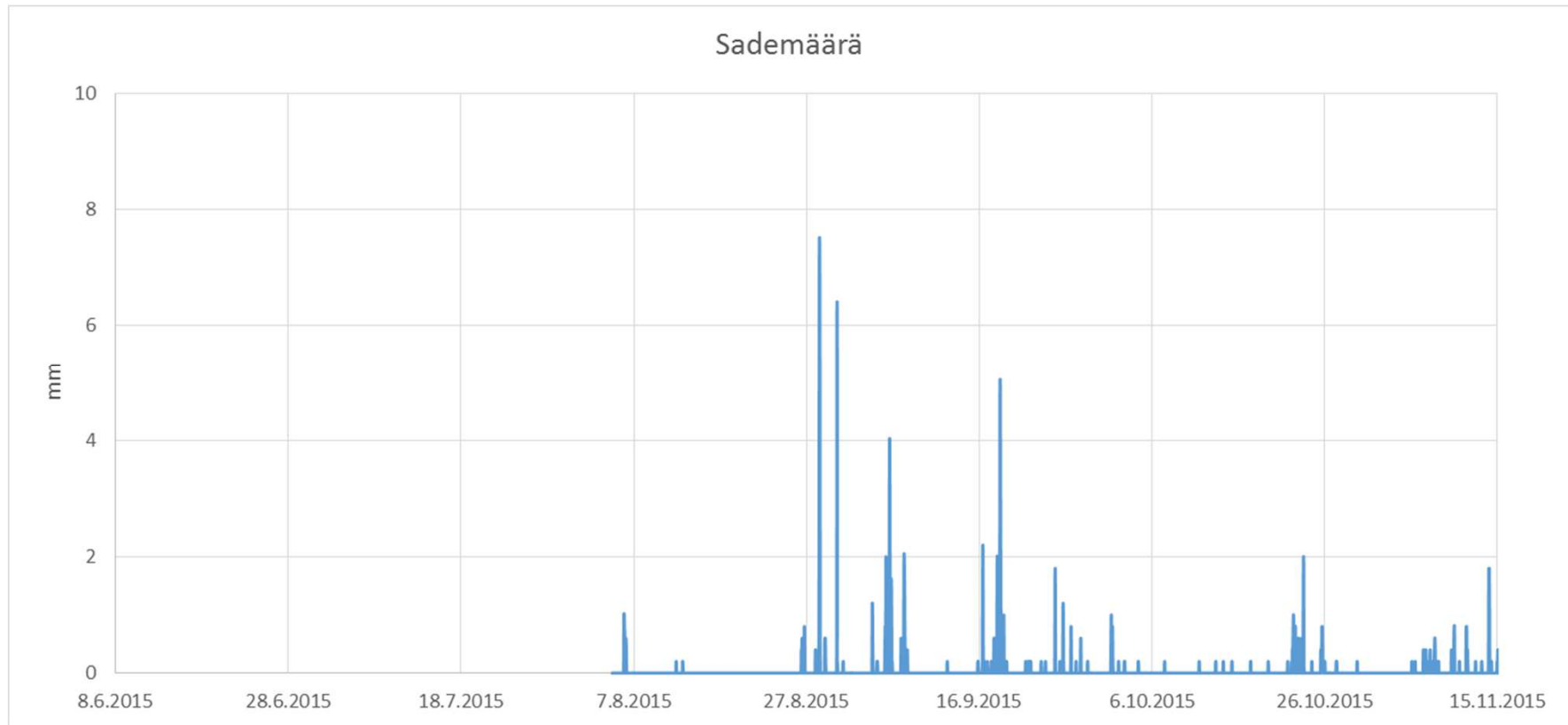


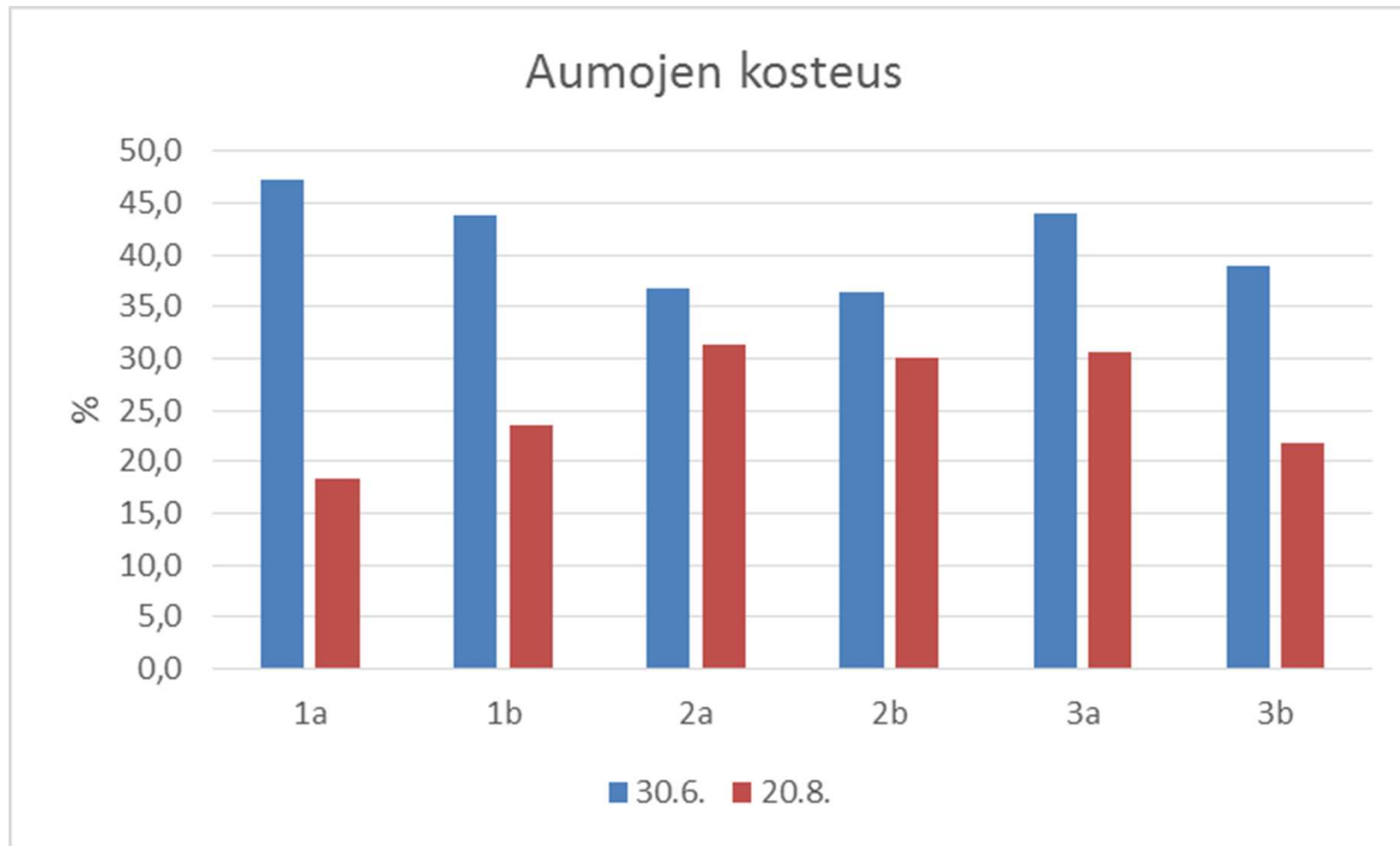
Kasojen lämmöt



Jäteveden pH

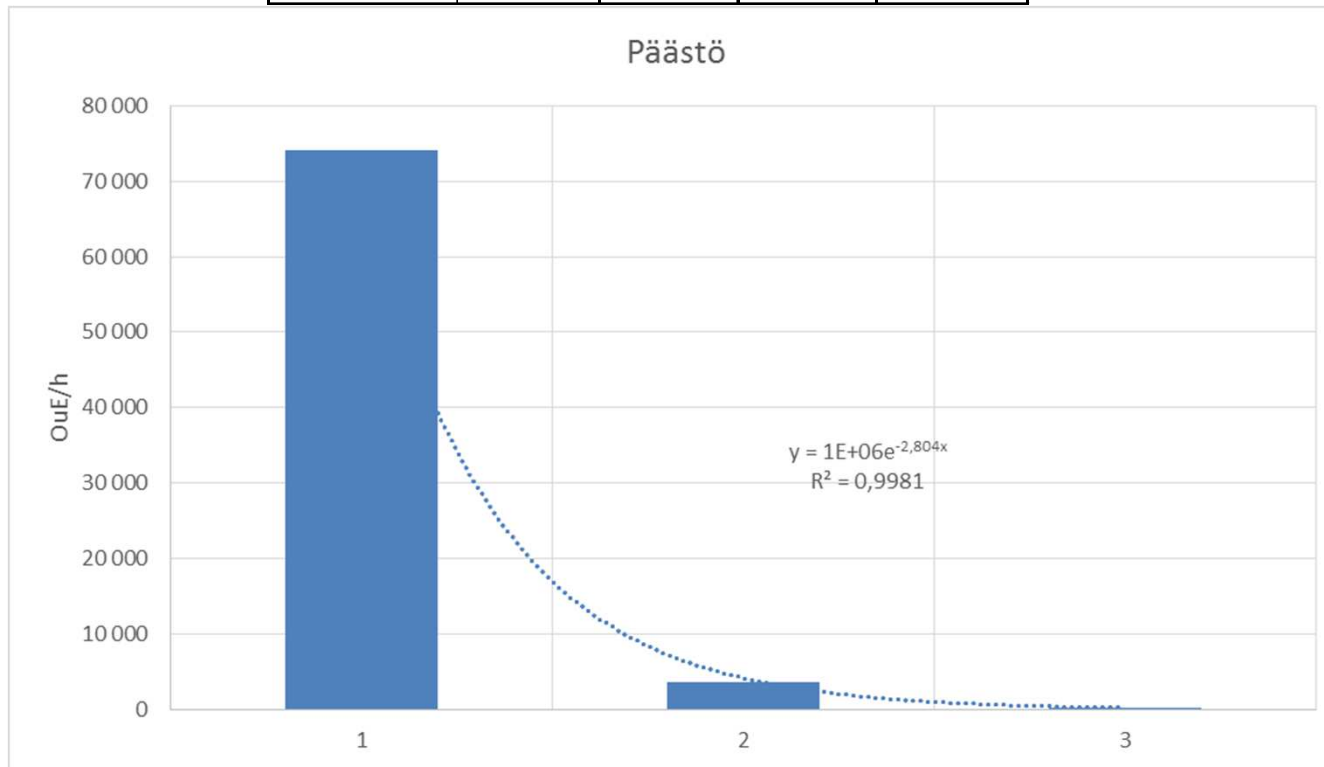




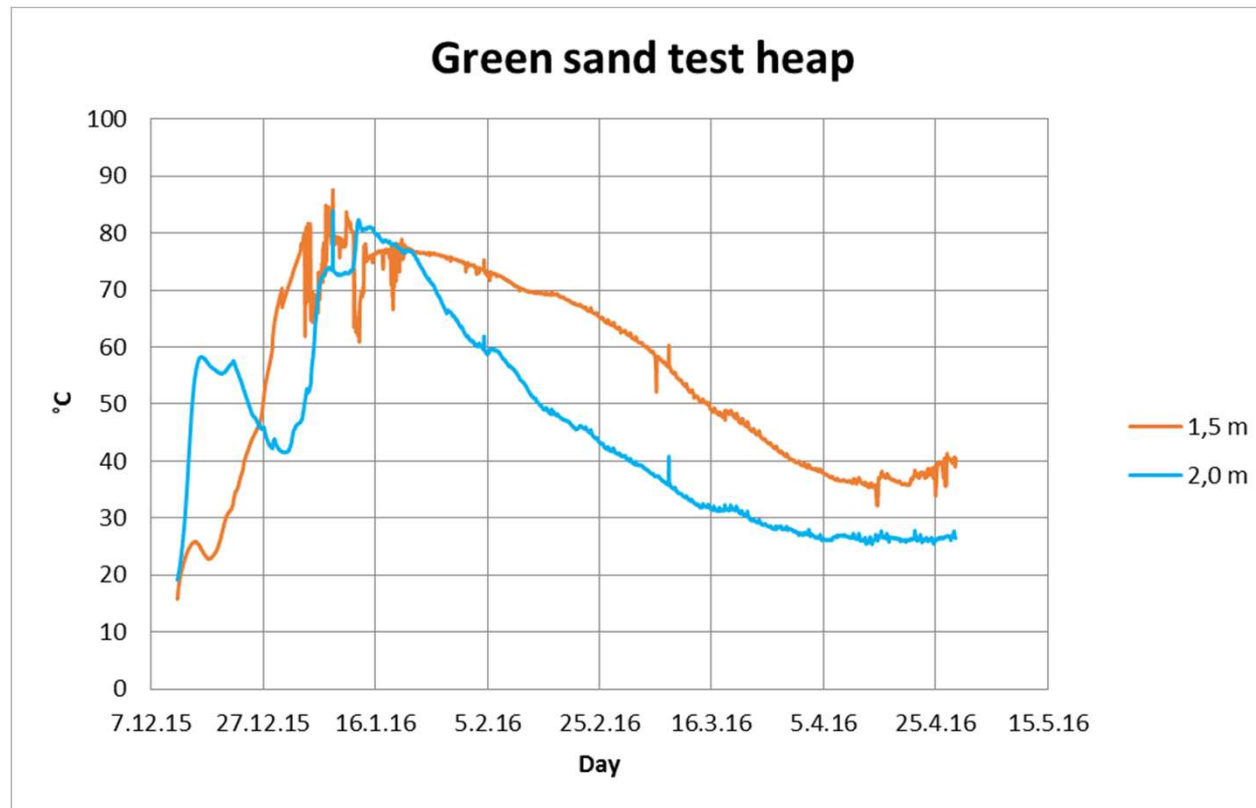


Hajupäästöt

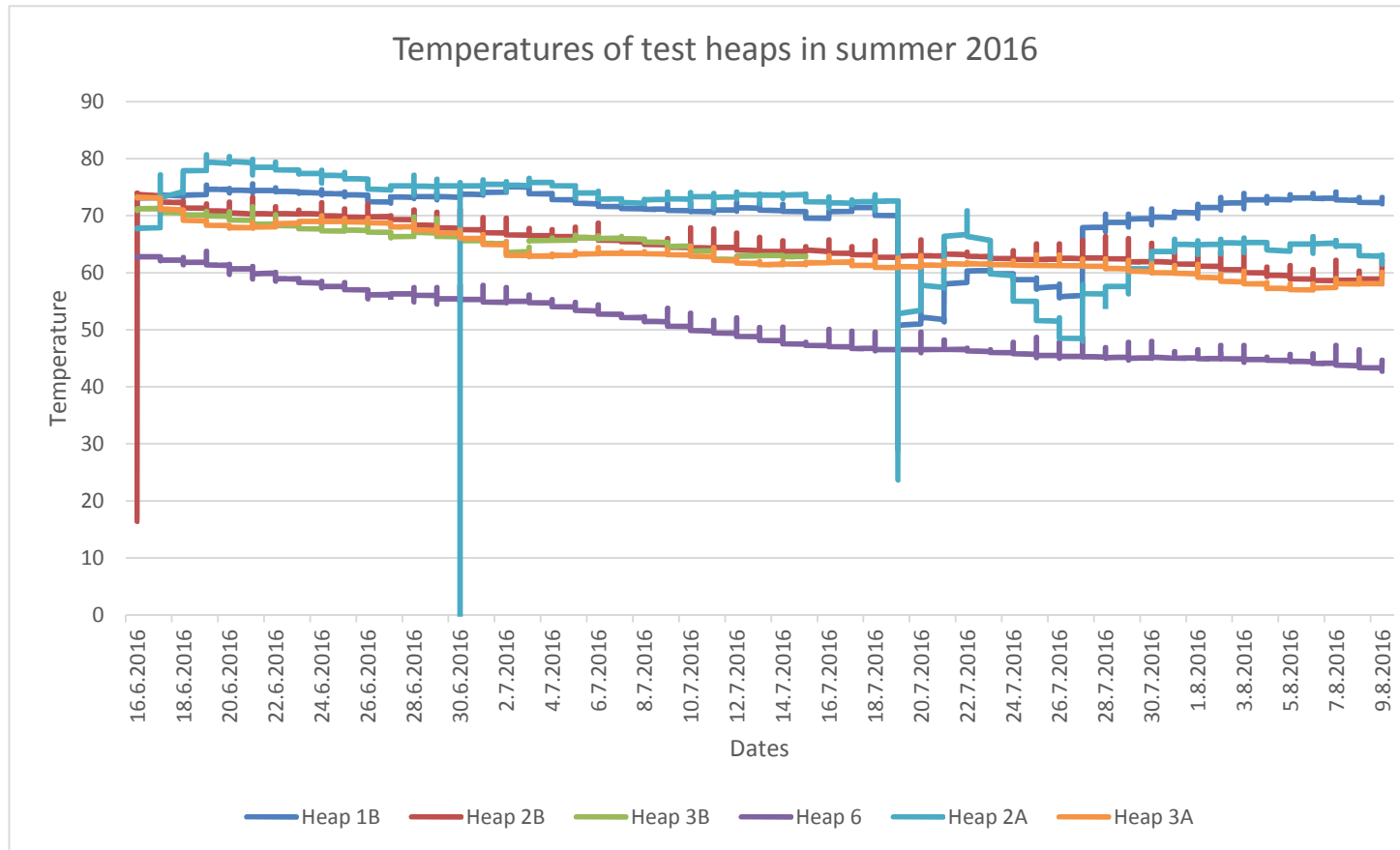
Mittauspiste		Kasa 1a	Kasa 1a	Kasa 1a
Päivä		24.6.2015	6.8.2015	28.10.2015
Ilmavirta	Nm^3/h	2,9	5,0	2,1
Pitoisuus	ou_E/m^3	26 008	724	128
Päästö	Ou_E/h	74 172	3 639	272



Talvikoelämmöt



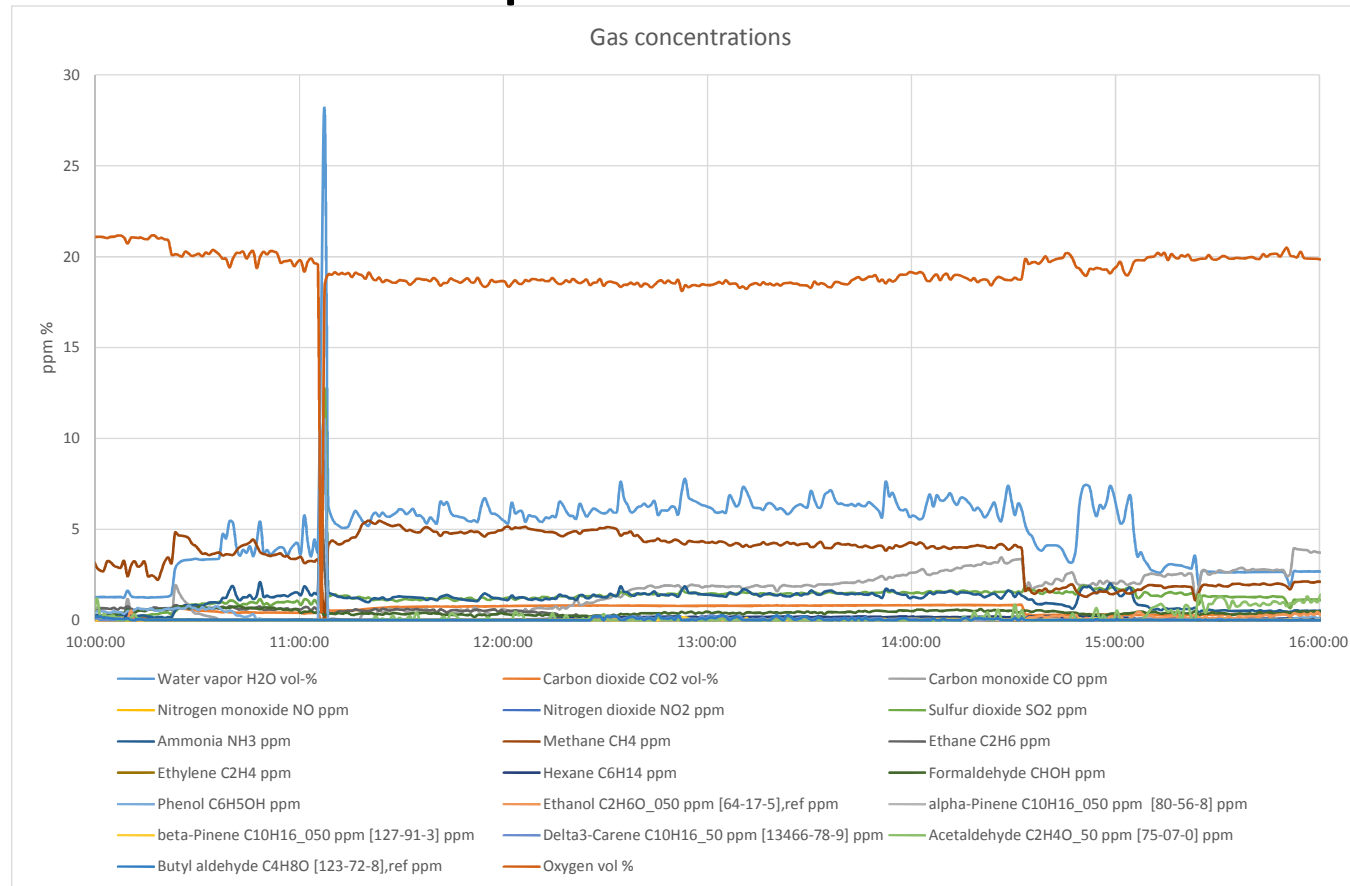
Kasojen lämmöt kesällä 2016







Biofilttereiden kaasumaiset pitoisuudet



Biofiltterien hajun erotusaste

Before biofilters	Biofilter	After biofilter	Cleaning efficiency
Ou/m ³		Ou/m ³	%
1 933	BS1	128	93,4
	BS2	274	85,8

Kiitos mielenkiinnostasi!

