ACTRIS
CiGas

Labelling status; Auditing

ACTRIS CiGas data QA/QC

workshop 2025

Labelling status - overview

41 NFs within CiGas

- **5 / 26 observational platforms (SIRTA, Palas, SMEAR II, JFJ, HPB)**
- **2 / 10 atmospheric simulation chambers (PACS, EUPHORE)**
- **1 laboratory platform**
- **4 mobile platforms**

UK and Greece not (yet) included

not yet ready (12)

- Hyltemossa, Norunda, Svartberget, Zeppelin, University Innsbruck, Trollhaugen, SMEAR I + III, P2OA, Lecce, CABAUW, Taunus

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Changes in Labeling step 1a process

VOC labelling (Online)

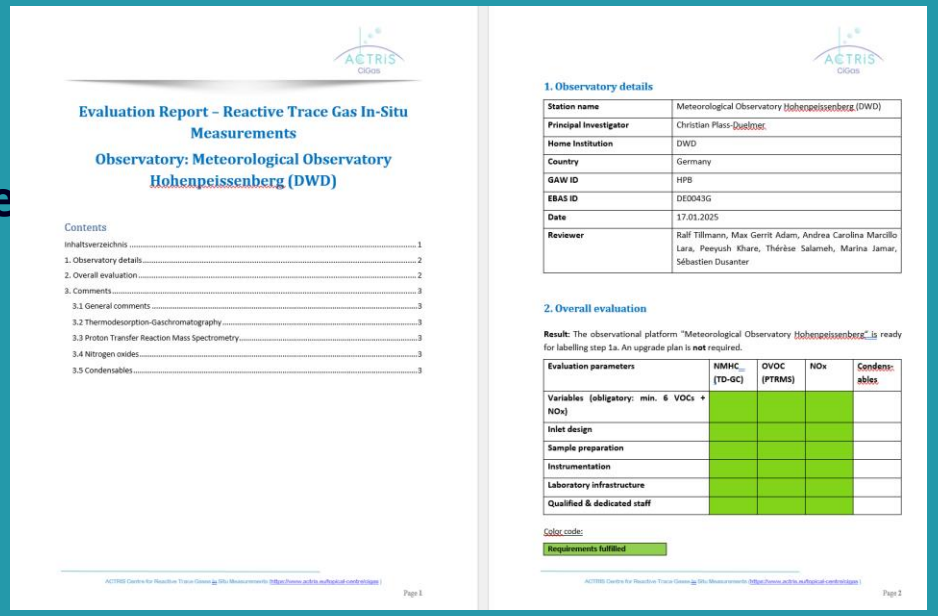
CiGas PI for NMHCs:	Ralf Tillmann	r.tillmann@fz-juelich.de	+49 2461 616963
CiGas PI for OVOCs:	Thérèse Salameh	therese.salameh@imt-nord-europe.fr	

Component group specific contact:

Firstname(s), Lastname(s)	Expertise level	Contact (Email address)
Felix Klein, Anja Claude	Scientist	felix.klein@dwd.de; anja.claude@dwd.de
Erasmus Tensing	Technician	erasmus.tensing@dwd.de

Instrument:	
Status:	Installed
Date of full operation:	January 2025
Inlet system:	
Measurement height above ground:	17.00 m
Measurement height above building:	2.00 m
Distance from NOx inlet:	6.00 m
Distance from condensables inlet (if applicable):	5.00 m
Distance from ozone inlet:	6.00 m
Inlet tube material:	Other — Highflow glass manifold (ID ~4cm, ~12m/s) into t
Residence time from the inlet line to entry of sampling device:	2.00 s
Inlet line heating:	40.00 °C
Inlet filter:	None
Inlet filter; mesh size:	N/A
Sample air flow (select):	Vacuum sampling
Air flow:	100 [mL/min]
Class of compounds measured (select):	VOC
Air treatment during sampling (select):	
Water removal:	None
CO2 removal:	None
Oxidant removal:	None
Particle removal:	None
Other:	None
Air sampling (select):	Direct feeding to analysis; ion transfer reactions with reagent ion — H3O+
Sampling system manufacturer & model:	Other — Tofwerk
Sampling duration:	1s
Sampling volume:	N/A
Injection (select):	Please select...
Split:	Please select...
Matrix separation (select):	Please select...
Matrix separation manufacturer & model:	Please select...
Detection (select):	Mass spectrometry
Detection system manufacturer:	Tofwerk
Detection system model:	Vocus S
Calibration:	
Number of scales (calibration standards):	1
Dilution factor:	500
Dilution factor uncertainty:	Please specify [%]
Supplier of scales:	NPL
	Please provide a copy of the scale c
Zero gas generation:	Catalyst
Calibration frequency:	Other
Zero gas / Blank frequency:	Other
Blank substraction:	Applied
Linearity check frequency:	Other
Measurement QA/QC:	
Instrument log book:	Electronic
Checklist:	None
Data QA/QC (select):	Time series analysis of calibrations
Data submission:	1st Database
Database for data availability:	ACTRIS
Submission interval:	Other
Other comments or remarks:	

Labelling Questionnaire



Evaluation Report – Reactive Trace Gas In-Situ Measurements

Observatory: Meteorological Observatory Hohenpeissenberg (DWD)

Contents

1. Observatory details

Station name	Meteorological Observatory Hohenpeissenberg (DWD)
Principal Investigator	Christian Plass-Duelmer
Home Institution	DWD
Country	Germany
GAW ID	HPB
EBAS ID	DE0043G
Date	17.01.2025
Reviewer	Ralf Tillmann, Max Gerrit Adam, Andrea Carolina Marcillo Lara, Peeyush Khare, Thérèse Salameh, Marina Jamar, Sébastien Dusanter

2. Overall evaluation

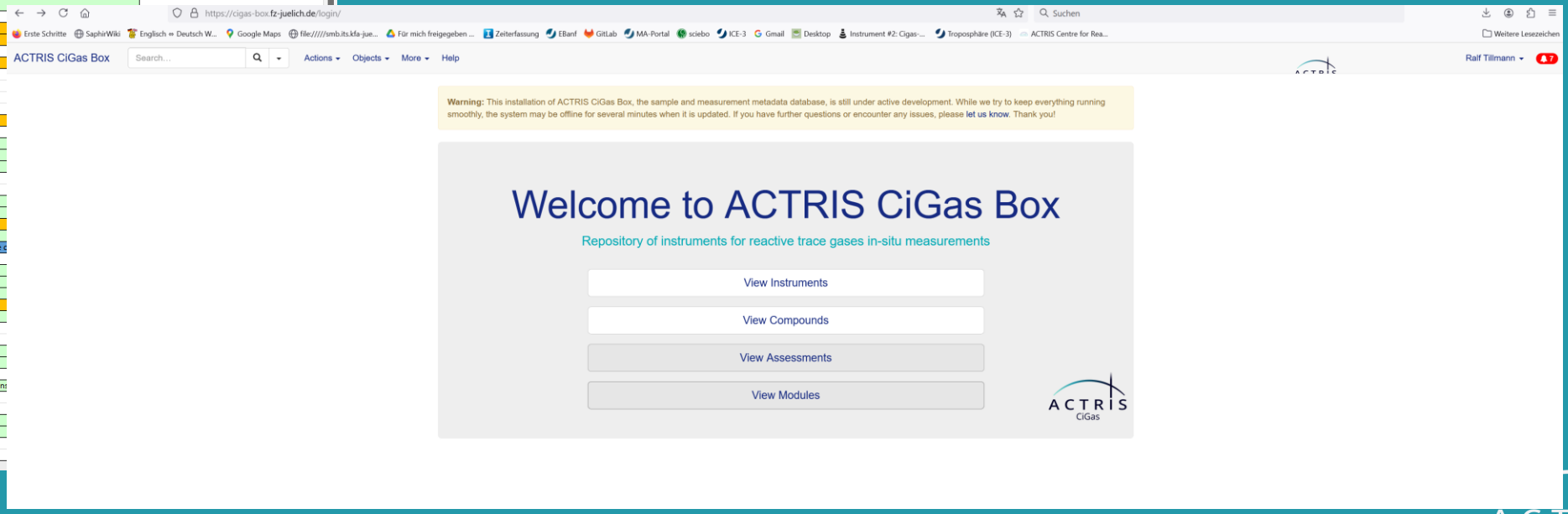
Result: The observational platform "Meteorological Observatory Hohenpeissenberg" is ready for labelling step 1a. An upgrade plan is **not** required.

Evaluation parameters	NMHC (TD-GC)	OVOC (PTRMS)	NOx	Condensables
Variables (obligatory: min. 6 VOCs + NOx)				
Inlet design				
Sample preparation				
Instrumentation				
Laboratory infrastructure				
Qualified & dedicated staff				

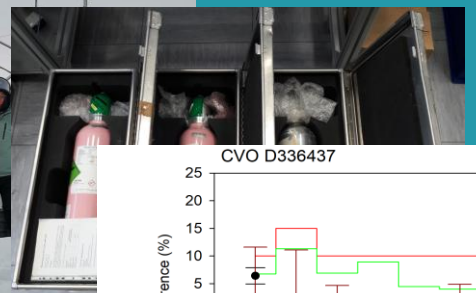
Color code:

Requirements fulfilled

CiGas Instrument data base



Audits: Prerequisite for labeling step 1c



ACTRIS CiGas

AUDIT QUESTIONNAIRE FOR SYSTEM AND PERFORMANCE AUDITS OF ATMOSPHERIC TRACE GAS MEASUREMENTS AT ACTRIS Reactive trace gases in situ measurements SITES

Version	Version 1.0, 2023-11-22	First template sent post first CiGas audit.
	Version 2.0, 2024-09-16.	Template for preparation of NF sent pre-audit.
Contributors	Original by R. Steinbrecher (WCC-VOC). Modified by R. Tillmann (CiGas), A. Marcillo (CiGas), P. Khare (CiGas) and A. Grasse (CiGas).	
Approval	CiGas management board: pending	
Scope	This document contains a questionnaire for combined system and performance audits of Reactive trace gases in situ measurements at ACTRIS. It is recommended for use during audits of measurement systems that either use a gas chromatographic method and/or continuous gas analysers. This questionnaire has been optimized for audits of NMHC.	
Definitions	According to the Implementation plan "Activity 6: NF labelling and evaluation", CiGas has to evaluate the NF labelling application and the conformity of the NF with respect to the MGs and SOPs. The respective auditing process does comprise of periodical station visits to check the performance of the NF. Deviations from data quality objectives (DQOs) deserve special attention. During an audit, the following will be evaluated: (1) The sampling and instrument set-up, (2) the calibration and zero gas systems, (3) the QA/QC procedures implemented, (4) the training and instructions sessions, (5) data from calibration, zero gas, target gas, and standard addition, (6) the data delivery, (7) the results from intercomparison exercises, (8) the uncertainty evaluation, (9) the logbooks (instrument, measurements, station), (10) the scientific use of the data and (11) the overall equipment of the station. For the performance audit, target gases provided by the auditing unit will be used.	

Site		Compound
Pallas		NMHCs
Date of Audit	Auditor(s)	
24. – 27.03.2025	Ralf Tillmann; Peeyush Khare; Achim Grasse	

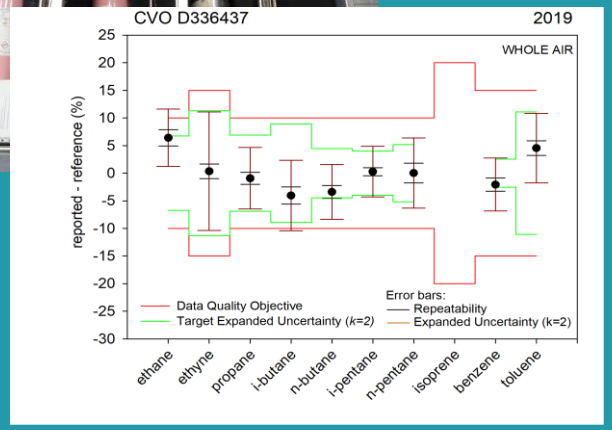
Questionnaire_audit_NMHC_NFName_yyyy.docx
ACTRIS Centre for Reactive Trace Gases In Situ Measurements (https://www.actris.eu/topical-centre/cigas)

ACTRIS CiGas

AUDIT REPORT FOR SYSTEM AND PERFORMANCE AUDITS OF ATMOSPHERIC TRACE GAS MEASUREMENTS AT ACTRIS Reactive trace gases in situ measurements SITES

+

2 years of level 0 + 2 data submission (75 % coverage, all seasons)



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