



**GAW World Calibration Centre (WCC) for Methane
and
Quality Assurance/Science Activity Centre (QA/SAC)
in Asia and the South-West Pacific**



**Methane Reference Gas Intercomparison for Japan from 2012 to 2013
Technical Details on Laboratory Measurements**

National Institute of Advanced Industrial Science and Technology (AIST)

1. Information on contributors

- (1) Contributors: Shohei Murayama
- (2) Organization: National Institute of Advanced Industrial Science and Technology, Japan

2. Information on instrument

- (1) Analytical method: Gas Chromatography (FID)
- (2) Manufacturer: SHIMADZU
- (3) Model: GC-14BPF

3. Information on sampling

- (1) Sampling volume: 10 ml
- (2) Carrier gas: Nitrogen (ultra high purity)
- (3) Flow rate: 48 ml/min
- (4) Temperature of the oven: 70°C

4. Information on the main column

- (1) Diameter: 3 mm
- (2) Length: 1 m
- (3) Material: stainless steel

5. Information on column packings

- (1) Trade name: activated charcoal
- (2) Mesh: 60/80

6. Information on standard gas

- (1) Number of standard gases: 4
- (2) Concentration of standard gases: 1006.5, 1552.2, 1999.0, 2534.0 ppb
- (3) Scale: AIST scale (Primary standards were prepared using a gravimetric method described in Aoki et al. (1992)).

7. Other information (references, papers, literatures, etc.)

Aoki, S., T. Nakazawa, S. Murayama and S. Kawaguchi, Measurements of atmospheric methane at the Japanese Antarctic station, Syowa, *Tellus, Ser. B*, 44, 273-281, 1992

Inotomi, M., Ito, A., Ishijima, K. and Murayama, S., Greenhouse gas budget of a cool-temperate deciduous broad-leaved forest in Japan estimated using a process-based model, *Ecosystems*, 13, 472-483, 2010