



**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 the South-West Pacific
from 2006 to 2008
Technical Details on Laboratory Measurements**

Japan Meteorological Agency (JMA)

1. Information on contributors

- (1) Contributors: Yuji ESAKI, Jun-ichi HIROSAWA
- (2) Organization: Japan Meteorological Agency, Japan

2. Information on instrument

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

3. Information on sampling

- (1) Sampling volume: 10 ml
- (2) Carrier gas: Nitrogen (ultra high purity)
- (3) Flow rate: 50 ml/min
- (4) Temperature of the oven: 70C

4. Information on the main column

- (1) Diameter: 3 mm
- (2) Length: 4 m
- (3) Material: stainless steel

5. Information on column packings

- (1) Trade name: Molecular Sieve 5A
- (2) Mesh: 60/80

6. Information on standard gas

- (1) Number of standard gases: 5
- (2) Concentration of standard gases: 1622, 1750, 1867, 1983, 2109 ppb
- (3) Scale: NOAA04 Scale CH₄-in-air

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

- Matsueda, H., Intercalibration experiment of methane standard gas scale between NOAA/CMDL and MRI/GRL, *Papers in Meteorology and Geophysics*, 44, No.2, 45-56, 1993.
- Matsueda, H., Y. Sawa, A. Wada, H.Y. Inoue, K. Suda, Y. Hirano, K. Tsuboi and S. Nishioka, Methane standard gases for atmospheric measurements at the MRI and JMA and intercomparison experiments, *Papers in Meteorology and Geophysics*, 54, 91-109, 2004.