



**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**

Meteorological Research Institute (MRI)

1. Information on contributors

- (1) Contributors: Dr. Hidekazu MATSUEDA
- (2) Organization: Meteorological Research Institute, Japan

2. Information on instrument

- (1) Analytical method: Gas Chromatography (FID)
- (2) Manufacturer: Yanaco
- (3) Model: AG-1F

3. Information on sampling

- (1) Sampling volume: 5ml
- (2) Carrier gas: N₂
- (3) Flow rate: 50ml/min
- (4) Temperature of the oven: 65 °C

4. Information on the main column

- (1) Diameter: 1/8 inch
- (2) Length: 2.1m
- (3) Material: stainless steel

5. Information on column packings

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

6. Information on standard gas

- (1) Number of standard gases: 5
- (2) Concentration of standard gases: 1598.8, 1724.2, 1850.5, 1975.6 and 2102.2ppb
- (3) Scale: MRI Scale

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

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.

Dlugokencky, E.J., R.C. Myers, P.M. Lang, K.A. Masarie, A.M. Croswell, K.W. Thoning, B.D. Hall, J.W. Elkins, and L.P. Steele, Conversion of NOAA atmospheric dry air CH₄ mole fractions to a gravimetrically prepared standard scale, *Journal of Geophysical Research*, 110, 2005