



**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 Asia in 2001  
Technical Details on Laboratory Measurements**

**Japan Meteorological Agency (JMA)**

**1. Measurement System and Condition**

Gas chromatograph (GC) with a flame ionization detector (FID), Shimadzu GC-14BPF  
Sample loop volume: 10 ml, Carrier gas: ultra pure N<sub>2</sub> (>99.9999%), Carrier flow: 50 ml/min, Oven temperature: 70 °C, Column: stainless steel cylinder (3 mm inside diameter × 4 m long) packed with molecular sieve 5A (60/80 mesh).

**2. Standard Gases**

Five standard gases in 9.4-litre aluminum alloy cylinders (CH<sub>4</sub>-in-air at 1600.0, 1700.4, 1850.4, 1998.2, and 2100.2 ppb) prepared gravimetrically by Nippon Sanso Corporation, Japan in 2000, in a method developed by Prof. T. Nakazawa and his coworkers at Tohoku University, Sendai, Japan [Aoki et al., 1992].