METHOD #: 202.2	Approved for NPDES (Issued 1978)
TITLE:	Aluminum (AA, Furnace Technique)
ANALYTE:	CAS # Al Aluminum 7429-90-5
INSTRUMENTATION:	AA
STORET No.	Total 01105 Dissolved 01106 Suspended 01107
Optimum Concentration Range: **Detection Limit:**	20-200 μg/L 3 μg/L

1.0 Preparation of Standard Solution

1.1 Stock solution: Prepare as described under "direct aspiration method".
1.2 Prepare dilutions of the stock solution to be used as calibration standards at the time of analysis. These solutions are also to be used for "standard additions".
1.3 The calibration standard should be diluted to contain 0.5% (v/v) HNO_3.

2.0 Sample Preservation

2.1. For sample handling and preservation, see part 4.1 of the Atomic Absorption Methods section of this manual.

3.0 Sample Preparation

3.1 Prepare as described under "direct aspiration method". Sample solutions for analysis should contain 0.5% (v/v) HNO_3.

4.0 Instrument Parameters (General)

4.1 Drying Time and Temp: 30 sec-125°C.
4.2 Ashing Time and Temp: 30 sec-1300°C.
4.3 Atomizing Time and Temp: 10 sec-2700°C.
4.4 Purge Gas Atmosphere: Argon
4.5 Wavelength: 309.3 nm
4.6 Other operating parameters should be set as specified by the particular instrument manufacturer.

5.0 Analysis Procedure

5.1 For the analysis procedure and the calculation, see "Furnace Procedure" part 9.3 of the Atomic Absorption Methods section of this manual.

6.0 Notes

6.1 The above concentration values and instrument conditions are for a Perkin-Elmer HGA-2100, based on the use of a 20 μL injection, continuous flow purge gas and non-pyrolytic graphite.

6.2 Background correction may be required if the sample contains high dissolved solids.

6.3 It has been reported that chloride ion and that nitrogen used as a purge gas suppress the aluminum signal. Therefore the use of halide acids and nitrogen as a purge gas should be avoided.

6.4 For every sample matrix analyzed, verification is necessary to determine that method of standard addition is not required (see part 5.2.1 of the Atomic Absorption Methods section of this manual).

6.5 If method of standard addition is required, follow the procedure given earlier in part 8.5 of the Atomic Absorption Methods section of this manual.

6.6 Data to be entered into STORET must be reported as μg/L.

7.0 Precision and Accuracy

7.1 Precision and accuracy data are not available at this time.