

**CENTER FOR NUCLEAR WASTE
REGULATORY ANALYSES**

TECHNICAL OPERATING PROCEDURE

Proc. TOP-017

Revision 0

Page 1 of 4

Title

FIELD COLLECTION OF WATER SAMPLES

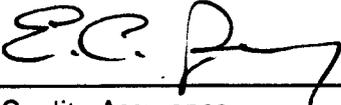
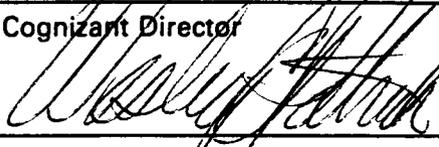
EFFECTIVITY AND APPROVAL

Revision 0 of this procedure became effective on 02/22/91. This procedure consists of the pages and changes listed below.

<u>Page No.</u>	<u>Change</u>	<u>Date Effective</u>
All	0	02/22/91

Supersedes Procedure No. NONE

Approvals

Written By 	Date 2/22/91	Technical Review 	Date 2/22/91
Quality Assurance 	Date 2/22/91	Cognizant Director 	Date 2/22/91

**CENTER FOR NUCLEAR WASTE
REGULATORY ANALYSES**

TECHNICAL OPERATING PROCEDURE

Proc. TOP-017

Revision 0

Page 2 of 4

**TOP-017
FIELD COLLECTION OF WATER SAMPLES**

1. PURPOSE

The purpose of this procedure is to provide general methods for field collection of water samples. This procedure establishes controls required by CQAM Sections 8 and 13.

2. RESPONSIBILITY

2.1 The Geologic Setting Element Manager is responsible for the development and maintenance of this procedure.

2.2 The cognizant Principal Investigators shall be responsible for the implementation of this procedure.

2.3 Personnel performing the tasks described in this procedure are responsible for complying with its requirements.

3. PROCEDURE

3.1 Sample Collection

3.1.1 Samples of water shall be placed in containers appropriate to preserve the sample for planned analyses. Containers of water samples must be labeled with a unique identification code (see section 3.2).

3.1.1.1 Samples for Major Ions

Samples for major ionic species shall be placed in high density polyethylene bottles which have been cleaned with high purity, high resistivity (about 17-18 megaohm-cm) water.

3.1.1.2 Samples for Trace Metals

Samples for trace components shall be placed in Teflon bottles which have been cleaned with acid. Samples shall

**CENTER FOR NUCLEAR WASTE
REGULATORY ANALYSES
TECHNICAL OPERATING PROCEDURE**

Proc. TOP-017 _____

Revision _____ 0 _____

Page 3 of 4

be acidified with acid appropriate for preservation and analysis of the species of interest.

- 3.1.1.3 Chemicals used to preserve water samples in accordance with this procedure shall meet the purity requirements as specified by the American Chemical Society (Certified ACS or Reagent ACS) if possible. If chemicals are not available in ACS grade, a certified grade such as Fisher Certified Grade may be used.

3.2 Sample Identification

Samples shall be identified according to TOP-012. Explanation of sample identification codes shall be entered into the appropriate field notebook.

3.3 Field Documentation

- 3.3.1 Field notebooks shall be maintained in accordance with QAP-001. The field notebook shall be subject to the same requirements as a scientific notebook.

- 3.3.2 The following information shall be recorded in the field notebook at the time of collection:

- sample identification number
- location of collection site
- description of collection site (e.g. well, spring or other)
- date of collection
- the pumping history of the well related to sampling, if applicable
- depth of sample, if collected from a well
- a brief description of the sample
- name or initials of the person making the entry

In addition, the following should be included as determined necessary by the Principal Investigator:

- temperature
- field pH
- field Eh

**CENTER FOR NUCLEAR WASTE
REGULATORY ANALYSES**

TECHNICAL OPERATING PROCEDURE

Proc. TOP-017

Revision 0

Page 4 of 4

3.3.3 A photograph may be taken of the sample location, as determined necessary by the Principal Investigator, to show local relations.

3.3.4 Sketches may be made in the field notebook, as determined necessary by the Principal Investigator, to show local relations.

3.3.5 The sample location may be marked on an appropriate base map or air photograph, as determined necessary by the Principal Investigator.

3.3.6 Sample control, storage, handling, shipping, and archiving shall be done in accordance with TOP-012.

4.0 Records

Sample collection records (field notebooks) shall be maintained as QA records in accordance with CQAM section 17 and permanently retained.