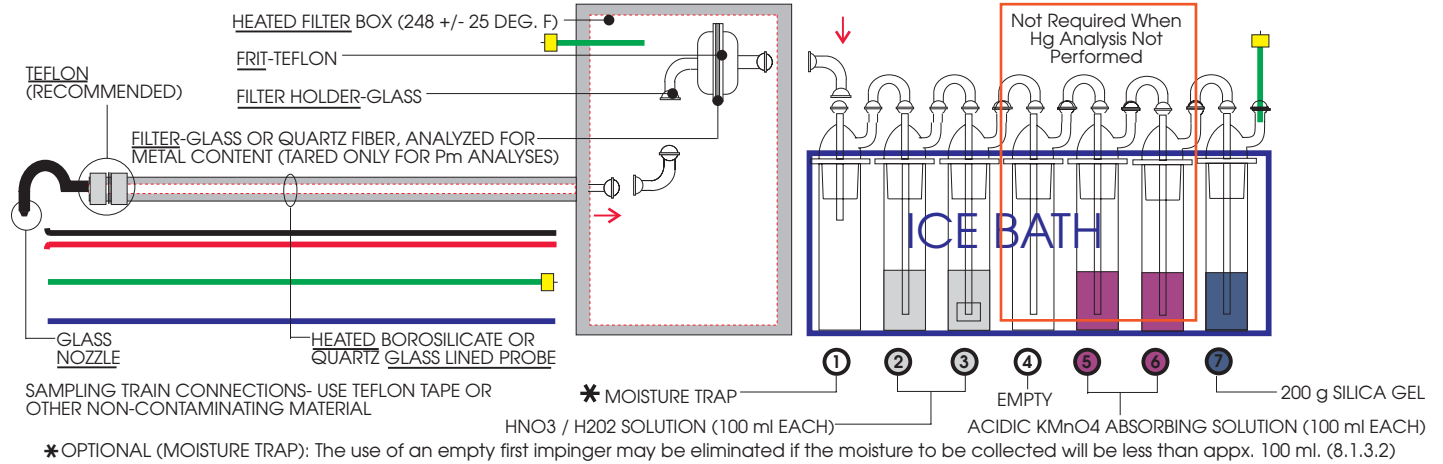


# Method 29 Sample Recovery

ActiveSET.org



## REAGENTS

FOR CHARGING: ② ③

### 5% HNO<sub>3</sub> / 10% H<sub>2</sub>O<sub>2</sub> ABSORBING SOLUTION

- PLACE 500 ml water in 1000 ml jar
- ADD 50ml of concentrated HNO<sub>3</sub>
- ADD 333 ml of 30% H<sub>2</sub>O<sub>2</sub>
- DILUTE to volume (1000ml) with water

CLEAR GLASS  
1000 ml

CHARGING & SAMPLE COLLECTION RINSE: ④ ⑤

Prepare Fresh Daily  
**4% KMnO<sub>4</sub> / 10% H<sub>2</sub>SO<sub>4</sub>  
ACIDIC KMnO<sub>4</sub> ABSORBING SOLUTION**

#### 10% H<sub>2</sub>SO<sub>4</sub>

- PLACE 800 ml water in 1000 ml jar
- ADD 100 ml concentrated H<sub>2</sub>SO<sub>4</sub> with stirring
- DILUTE to volume (1000 ml) with water

CLEAR GLASS  
1000 ml

TEFLON

#### 4% KMnO<sub>4</sub> / 10% H<sub>2</sub>SO<sub>4</sub>

- DISSOLVE 40 g KMnO<sub>4</sub> into 10% H<sub>2</sub>SO<sub>4</sub>
- ADD 10% H<sub>2</sub>SO<sub>4</sub> with stirring to make a volume of 1000 ml

SAMPLE COLLECTION RINSE FOR ALL GLASSWARE EXCLUDING 4th, 5th & 6th IMPINGERS

### 0.1 N HNO<sub>3</sub> - NITRIC ACID SOLUTION

- PLACE 900 ml DI H<sub>2</sub>O in 1000 ml jar
- ADD 6.3 ml of concentrated HNO<sub>3</sub> (70%)
- DILUTE to volume (1000 ml) with water

CLEAR GLASS  
1000 ml

TEFLON

SAMPLE COLLECTION/RESIDUAL RINSE: ④ ⑤

### 8 N HCl

- PLACE 250 ml water in 1000 ml jar
- ADD 690 ml concentrated HCl with stirring
- DILUTE to volume (1000 ml) with water

GLASS

GLASS

## BLANKS

GLASS  
100 ml

ACETONE  
(WHEN SAMPLING  
FOR Pm)

100 ml

CONTAINER NO.7

GLASS  
500 ml

0.1N HNO<sub>3</sub>

300 ml

CONTAINER NO.8A

GLASS  
100 ml

WATER USED IN  
SAMPLE RECOVERY

100 ml

CONTAINER NO.8B

GLASS  
500 ml

5% NITRIC ACID/  
10% HYDROGEN  
PEROXIDE

200 ml

CONTAINER NO.9

GLASS  
100 ml

ACIDIFIED KMnO<sub>4</sub>  
(WHEN SAMPLING  
FOR Hg)

100 ml

CONTAINER NO.10

GLASS  
500 ml

8 N HCl  
(WHEN SAMPLING  
FOR Hg)

ADD 25 ml to  
200 ml WATER

CONTAINER NO.11

GLASS PETRI

FILTER

(3) UNUSED  
FILTERS FROM  
SAME LOT

CONTAINER NO.12

## DO NOT USE ANY METAL CONTAINING MATERIALS WHEN RECOVERING THIS TRAIN

WATER: To conform to ASTM Specification D1193-77 or 91, Type II. If necessary, analyze water for all target metals prior to field use.

Copyright © Colleen Hodge 2002.

## SAMPLE RECOVERY

GLASS  
PETRI

FILTER

USE POLYPROPYLENE  
OR TEFLON  
COATED TWEEZERS

CONTAINER NO.1

GLASS  
100 ml

NOZZLE, PROBE, &  
FR. 1/2 FILTER HOLDER

Use Non-Metallic Brush  
RINSE 3 TIMES W/ACETONE  
(100 ml TOTAL)  
ADD RINSE TO CONTAINER

WHEN  
SAMPLING  
FOR Pm

CONTAINER NO.2

GLASS  
1000 ml

NOZZLE, PROBE, &  
FR. 1/2 FILTER HOLDER

RINSE 3 TIMES W/0.1 N HNO<sub>3</sub>  
(100 ml TOTAL)  
ADD RINSE TO CONTAINER  
  
RINSE ALL AGAIN W/WATER,  
THEN ACETONE & DISCARD

CONTAINER NO.3

BACK 1/2 FILTER HOLDER, CONNECTING  
GLASSWARE, MOISTURE TRAP, 2ND & 3RD IMPS

GLASS  
1000 ml

① ② ③

MEASURE LIQUID, ADD TO  
CONTAINER. THEN  
RINSE 3 TIMES W/0.1N HNO<sub>3</sub>  
(100 ml TOTAL)  
ADD RINSE TO CONTAINER

CONTAINER NO.4

GLASS  
500 ml

4TH  
IMPINGER  
④

MEASURE LIQUID, ADD TO  
CONTAINER. THEN  
RINSE 3 TIMES W/0.1N HNO<sub>3</sub>  
(100 ml TOTAL)  
ADD RINSE TO CONTAINER

CONTAINER NO.5A

GLASS  
500 ml

5TH & 6TH  
IMPINGERS  
⑤ ⑥

MEASURE LIQUID, ADD TO  
CONTAINER. RINSE 3 TIMES  
W/ACIDIC KMnO<sub>4</sub>  
(100 ml TOTAL) THEN RINSE  
W/WATER (100 ml TOTAL)  
ADD RINSES TO CONTAINER

CONTAINER NO.5B

GLASS  
500 ml

5TH & 6TH  
IMPINGERS RESIDUE  
⑤ ⑥

IF VISIBLE DEPOSITS REMAIN:  
RINSE W/8 N HCl (25ml)  
PLACE IN 200 ml WATER

CONTAINER NO.5C

CONTAINER NO.6

⑦ SILICA GEL

WEIGH & DISCARD

WHEN  
SAMPLING  
FOR Hg