Figure 29-3. Sample Preparation and Analysis Scheme.

Container 3
Acid Probe Rinse
(Labeled FH)

Container 2
Acetone Probe
Rinse (Labeled AR)

Container 1
Filter
(Labeled F)

Container 4
(HNO₃/H₂O₂
Impingers labeled BH)
(includes condensate
impinger, if used)

Containers
5A, 5B, & 5C

Individually,
three separate
digestions and
analyses: digest
with acid and
permanganate
at 95°C for 2 hr
and analyze for
Hg by CVASS
Anal. Fractions
3A, 3B, 3C

Reduce to
dryness in a
tared beaker

Desiccate to
constant weight

Determine filter particulate
weight

Aliquot taken for
CVASS for Hg
analysis
Anal. Fraction 2B

Acidify remaining
sample to pH 2
with conc. HNO₃
Anal. Fraction
2A

Digest with acid
and permanganate
at 95°C for 2 hr
and analyze for
Hg by CVASS

Reduce volume
to near dryness
and digest with
HNO₃ & H₂O₂

Divide into 0.5 g
sections & digest
each section
with conc. HF &
HNO₃

Solubilize
residue with
conc. HNO₃

Acidify to pH 2
with conc. HNO₃

Determine residue weight
in beaker

Filter & dilute to
known volume
Anal. Fraction 1

Remove 50 to
100 ml aliquot for
Hg analysis
by CVASS
Anal. Fraction 1B

Digest with acid and
permanganate at 95°C C
in a water bath for 2 hr

Analyse aliquot for Hg
using CVASS

Analyse by ICAP for target metals
Anal. Fraction 1A

Analyse for metals by GFASS
Anal. Fraction 1A

* Analysis by AAS for metals found at less than 2 mg/ml in
digestate solution, if desired. Or analyze for each metal by
AAS, if desired.