

APPENDIX E

PRELIMINARY QUESTIONNAIRE
FOR
THE U.S. ARMY CORPS OF ENGINEERS
VALIDATION PROGRAM FOR
ANALYTICAL CHEMISTRY LABORATORIES

EM 200-1-1
1 Jul 94

PRELIMINARY QUESTIONNAIRE

This questionnaire is designed to elicit all the information required prior to an on-site survey. Please make a concerted effort to furnish the information as accurately and concisely as possible. For convenience, the questionnaire has been divided into seven sections:

- Section 1: General Laboratory Information
- Section 2: Organization and Personnel
- Section 3: Laboratory Facilities and Equipment
- Section 4: Analytical Instrumentation
- Section 5: Technical Services
- Section 6: Chemical Analyses
- Section 7: Federal RCRA Compliance

In each section, the questions are styled for the ease of the laboratory's response. In many cases only a check (✓) is required. Other questions call for a short answer; clarity and brevity should hallmark your response. If you need more space, please continue on blank sheets and attach them to the questionnaire.

Each section is independent, so that the different sections may be distributed to the most knowledgeable persons in the laboratory who can complete their parts independently. Finally, management should assemble and check all responses before returning the completed forms. The completed preliminary questionnaire shall be returned to the USACE within ten working days from the date of receipt or prior to the on-site laboratory inspection.

The completed questionnaire will be used by the USACE laboratory inspectors to prepare the upcoming on-site laboratory inspection. The time involved in the on-site inspection can be minimized by a thorough presentation of the information sought in the questionnaire. Therefore, it is advantageous to both your laboratory and the inspection team if these questions are answered precisely and completely.

Thank you for your cooperation.

SECTION 1. GENERAL LABORATORY INFORMATION

1. Laboratory Name: _____

2. Street Address: _____

Mailing Address: _____

3. Telephone No.: _____ FAX No.: _____

4. Name of Laboratory Director: _____

Name of Laboratory Manager: _____

Name of QA Officer: _____

5. Does your laboratory routinely participate in any of the following QA programs? If yes, please check the brackets, complete the attached CHART E-1 (Page E-6), and submit copies of the laboratory certificates, a list of approved analytical parameters and the two most recent results of any performance evaluation sample analyses. [] Check if attached.

a. Department of Defense QA Programs:

- [] U.S. Army Corps of Engineers (USACE)
- [] U.S. Army Environmental Center (USAEC)
- [] U.S. Air Force Occupational and Environmental Health Laboratory QA/QC Audit (USAFOEHL)
- [] U.S. Navy Energy and Environmental Support Activity (NEESA)
- [] Naval Assessment and Control of Installation Pollutants (NACIP)

b. USEPA QA Programs:

- [] EMSL/Cincinnati Water Supply QA Program
- [] EMSL/Cincinnati Water Pollution QA Program
- [] Office of Solid Waste Quarterly Audit Program
- [] Remedial Engineering Management (REM) or Alternative Remedial Contracts Strategy (ARCS) Subcontract Laboratory
- [] Radiochemistry Laboratory Intercomparison Study

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Discharge Monitoring Program for NPDES Permitted Clients

c. Other Federal Agencies:

- DOE Hazardous Waste Remedial Action Program (HAZWRAP)
- USDA Plant Protection and Quarantine Program
- NIST National Voluntary Laboratory Accreditation Program (NVLAP) for Asbestos
- U.S. Geological Survey Performance Evaluation Program
- NIOSH Proficiency Analytical Testing Program (PAT)
- NIOSH Asbestos Analyst Registry
- Nuclear Regulatory Commission (NRC) Broadscope Materials License

6. Does your laboratory currently participate in any state certification/accreditation programs? Check if yes and complete the attached CHART E-2 (Page E-7).

7. List major USEPA or USACE contracts held in the last two years that included soil/sediment/sludge analyses for hazardous, toxic, and radioactive wastes.

<u>Agency</u>	<u>Project Name</u>	<u>Approx. No. of Samples</u>	<u>Analytes</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

8. Is your laboratory currently approved by the Small Business Administration (SBA) for Section 8(a) program? [] Check if yes and submit copies of the SBA approval letter/documents.
9. This questionnaire is completed/assembled by:

_____ Date / /
NAME TITLE

and reviewed/approved by:

_____ Date / /
NAME TITLE

CHART E-1

Please check the brackets to indicate your laboratory's participation in the QA programs listed below. Indicate your laboratory's period of participation, identification number, and expiration date for each of these programs, in the space provided.

	Lab Name: _____			
		Period of Participation	Laboratory ID Number	Expiration Date
A. Department of Defense				
<input type="checkbox"/>	USACE	_____	_____	____/____/____
<input type="checkbox"/>	USAEC	_____	_____	____/____/____
<input type="checkbox"/>	USAFOEHL	_____	_____	____/____/____
<input type="checkbox"/>	NEESA	_____	_____	____/____/____
<input type="checkbox"/>	NACIP	_____	_____	____/____/____
B. USEPA				
<input type="checkbox"/>	USEPA WS	_____	_____	____/____/____
<input type="checkbox"/>	USEPA WP	_____	_____	____/____/____
<input type="checkbox"/>	USEPA OSW	_____	_____	____/____/____
<input type="checkbox"/>	REM/ARCS	_____	_____	____/____/____
<input type="checkbox"/>	RADCHEM	_____	_____	____/____/____
<input type="checkbox"/>	NPDES	_____	_____	____/____/____
C. Other Federal Agencies				
<input type="checkbox"/>	HAZWRAP	_____	_____	____/____/____
<input type="checkbox"/>	USDA	_____	_____	____/____/____
<input type="checkbox"/>	NVLAP	_____	_____	____/____/____
<input type="checkbox"/>	USGS	_____	_____	____/____/____
<input type="checkbox"/>	NIOSH PAT	_____	_____	____/____/____
<input type="checkbox"/>	NIOSH AAR	_____	_____	____/____/____
<input type="checkbox"/>	NRC	_____	_____	____/____/____

CHART E-2

Please indicate the state, type of certification, certifying organization, certification number, and the expiration date for each of certification programs in which your laboratory currently participates in.

<u>State</u>	<u>Type of Certification</u>	<u>Certifying Organization</u>	<u>Certification Number</u>	<u>Expiration Date</u>
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____
_____	1 2 3 4 5 6 7 8	_____	_____	_____

Lab Name: _____

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Type of Certifications:
 (1) General/Environmental, (2) Drinking Water, (3) Waste Water, (4) Hazardous Waste, (5) State Contract Laboratory, (6) Air Analyses, (7) Asbestos Analysis, (8) Radiochemical Analysis.

SECTION 2. ORGANIZATION AND PERSONNEL

1. Provide an organization chart of the laboratory, including any field operations or other internal affiliations to show how the laboratory fits into the general organizational structure. If attached, please check. []
2. How many years in operation?_____
3. What is the total number of laboratory employees?_____ Has this number increased over the past five years? Check if yes []
4. What portion of the laboratory employees are technical staff? Number_____ Percentage_____
5. What portion of your technical staff participated in a formal training program related to improving work performance during the past year? Number_____ Percentage_____
6. What was your turnover rate during the last 12 months?
 - (A) Administrative Staff:
Number_____ Percentage_____
 - (B) Technical Staff:
Number _____ Percentage_____
7. Complete CHART E-3 (Pages E-9 thru E-16) for all technical staff. Use a separate block for each employee and make additional copies if needed.

CHART E-3

1. QUALIFICATIONS OF MANAGEMENT STAFF:

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
Lab Director (Exp: 10 yrs min.) ³				
Lab Manager (Exp: 7 yrs min.) ³				
Org. Lab Manager (Exp: 5 yrs min.) ³				
Inorg. Lab Manager ⁵ (Exp: 5 yrs min.)				
System Manager ⁴ (Exp: 3 yrs min.)				
Project Manager ⁴ (Exp: 1 yr min.)				
Other (specify) _____ _____				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, or EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.
4. Minimum of Bachelor's degree with four or more intermediate courses in programming, information, and system management.

CHART E-3

2. QUALIFICATIONS OF QA/QC AND TECHNICAL STAFF: Page 1 of 1

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
Technical Director (Exp: 7 yrs min.)				
QA Officer (Exp: 5 yrs min.) ³				
QC Specialists (Exp: 3 yrs min.) ³				
Sample Custodians ⁴ (Exp: 6 mos min.)				
Data Reporting and Delivery Officers ⁴ (Exp: 6 mos min.)				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.
4. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline, or in lieu of the Bachelor's degree, three years of experience in sample receiving or data reporting, respectively.

CHART E-3

3. QUALIFICATIONS OF SAMPLE PREPARATION STAFF: Page 1 of 1

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
Sample Prep Lab Supervisors (Exp: 3 yrs min.) ³				
Org. Extraction and Concentration Experts (Exp: 1 yr min.) ⁴				
Metal Digestion Experts (Exp: 6 mos min.) ⁴				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.
4. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline, or in lieu of the Bachelor's degree, three years of experience in organic or metal sample preparation, respectively.

CHART E-3

4. QUALIFICATIONS OF GC STAFF:

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
GC Lab Supervisor ³ (Exp: 3 yrs min.)				
GC Operators (Exp: 1 yr min.) ⁴				
Pesticide Residue Analysis Experts ³ (Exp: 2 yrs min.)				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.
4. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline, or in lieu of the Bachelor's degree, three years of experience in operating and maintaining GC instruments.

CHART E-3

5. QUALIFICATIONS OF GC/MS STAFF:

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
GC/MS Lab Supervisor ³ (Exp: 3 yrs min.)				
GC/MS Operators ⁴ (Exp: 1 yr min.)				
GC/MS Spectral Interpretation Experts ³ (Exp: 2 yrs min.)				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.
4. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline, or in lieu of the Bachelor's degree, three years of experience in operating and maintaining GC/MS instruments.

CHART E-3

6. QUALIFICATIONS OF AA/ICP STAFF:

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
Metal Lab Supervisor (Exp: 3 yrs min.) ³				
AA Operators (Exp: 1 yr min.) ⁴				
ICP Operators (Exp: 1 yr min.) ⁴				
ICP Spectroscopists (Exp: 2 yrs min.) ³				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.
4. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline, or in lieu of the Bachelor's degree, three years of experience in operating and maintaining AA or ICP instruments, respectively.

CHART E-3

7. QUALIFICATIONS OF CLASSICAL AND OTHER ANALYSES: Page 1 of 2

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
Wet Lab Supervisor (Exp: 3 yrs min.)				
UV/VIS Specialists (Exp: 1 yr min.)				
Cyanide Analyst ³				
IR Specialists (Exp: 1 yr min.) ³				
TRPH Analyst ³				
HPLC Specialists (Exp: 1 yr min.) ³				
Explosive Analyst ³				

CHART E-3

7. QUALIFICATIONS OF CLASSICAL AND OTHER ANALYSES: (continued) Page 2 of 2

Position Title	Name of Employee	Degree & Major	Years ¹ of Exp	Analyses performed and Appropriate Training ²
Ion Chromatography Specialists (Exp: 1 yr min.) ³				
Common Ion Analyst ³				
Radiochemical Analysis Experts (Exp: 2 yrs min.) ³				
Characteristics Testing Experts ³ (Exp: 1 yr min.)				

1. Related to chemical analysis of hazardous, toxic, and radioactive wastes. Requirements for experience as listed are minimal.
2. Manufacturer sponsored class, ACS short course, EPA symposiums, etc.
3. Minimum of Bachelor's degree in chemistry or any scientific/engineering discipline.

SECTION 3. LABORATORY FACILITIES AND EQUIPMENT

1. Please provide a laboratory floor plan and complete CHART E-4. (* Note: The adequacy of laboratory facilities will be checked by USACE inspectors.)

CHART E-4

Lab Name: _____

Page 1 of 2

Item	Description	Ade-* quate	Additional Information
Building in Use Total (Sq Ft)			
Office Space Total (Sq Ft)			
Lab Space Total (Sq Ft)			
Bench-top Space Total (Sq Ft)			
Bench Hoods No. _____ (Ft/min)			

Item	Avai - able	Ade-* quate	Additional Information
Storage Space - Chemicals			
Sample Storage - General			
Secured Space			
Refrigerated Space			
High Hazardous Samples			
Controlled Area - Temperature			
Humidity			
Shielded			
Clean Rooms			
Compressed Air			

CHART E-4

Item	Avai - able	Ade- quate*	Additional Information
Vacuum			
Water Supply - Distilled Deionized Ammonia - free CO ₂ - free Bacteriologically Suitable			
Facilities as a Whole			

2. FIELD SAMPLING/ANALYSIS. Please complete CHART E-5 if the laboratory conducts field sampling/analysis. (* Note: The adequacy of laboratory facilities and equipment shall be checked by USACE inspectors.)

CHART E-5

Lab Name: _____

Page 1 of 1

Item	Avai - able	Ade-* quate	Additional Information
Dedicated Lab Space & Hoods			
Bottle Preparation Area			
Sample Coolers			
Chain-of-Custody Record			
Sample Labels and Tags			
Sampling Tools - Soil			
Sediment			
Sludge			
Surface Water			
Ground Water			
Ambient Air			
Emission Source			
Other (specify) _____			
Field Testing/Monitoring Equipment - Sniffers			
Portable GCS			
Geiger Counters			
Other (specify) _____			
Mobile Laboratories			

SECTION 4. ANALYTICAL INSTRUMENTATION

CHART E-6

1. SUMMARY OF GC INSTRUMENTS:

Page 1 of 1

No.	Manufacturer	Model Number	Age Yrs	Use for Method [†]	Ade- [*] quate	Comments [‡]
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

† 8000 series GC methods in SW-846 (3rd Edition, 1986).

* The adequacy of analytical instrument will be checked by USACE inspectors.

‡ Detectors, condition, autosamplers, modifications, etc.

CHART E-6

2. SUMMARY OF GC/MS INSTRUMENTS: †

Page 1 of 1

No.	Manufacturer	Model Number	Age Yrs	Use for Method ‡	Ade-* quate	Comments §
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

† Include MS, LC/MS, GPC, etc., if available.

‡ 8000 series GC methods in SW-846 (3rd Edition, 1986).

* The adequacy of analytical instrument will be checked by USACE inspectors.

§ Detectors, condition, autosamplers, modifications, etc.

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CHART E-6

3. SUMMARY OF AA/ICP INSTRUMENTS: †

Page 1 of 1

No.	Manufacturer	Model Number	Age Yrs	Use for Method ‡	Ade-* quate	Comments §
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

† Include ICP/MS, microwave digester, etc., if available.

‡ 8000 series GC methods in SW-846 (3rd Edition, 1986).

* The adequacy of analytical instrument will be checked by USACE inspectors.

§ Detectors, condition, autosamplers, modifications, etc.

CHART E-6

4. SUMMARY OF OTHER INSTRUMENTS: †

No.	Manufacturer	Model Number	Age Yrs	Use for Method ‡	Ade-* quate	Comments †
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						

† Include autoanalyzer, UV/VIS, IR, HPLC, IC, SEM, X-ray instrument, radioactivity counter/system, analytical balance, etc.

‡ 8000 series GC methods in SW-846 (3rd Edition, 1986).

* The adequacy of analytical instrument will(be checked by USACE inspectors.

‡ Detectors, condition, autosamplers, modifications, etc.

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SECTION 5. TECHNICAL SERVICES

1. Laboratory Name: _____
2. Please check the types of technical services routinely provided at this laboratory.

<input type="checkbox"/> Environmental	<input type="checkbox"/> Pharmaceutical	<input type="checkbox"/> Metallurgical
<input type="checkbox"/> Ecological	<input type="checkbox"/> Clinical	<input type="checkbox"/> R&D
<input type="checkbox"/> Radiochemical	<input type="checkbox"/> Agricultural	<input type="checkbox"/> Other (specify)
<input type="checkbox"/> Geotechnical	<input type="checkbox"/> Food Quality	_____
3. Please check the types of samples routinely analyzed at this laboratory.

<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Air	<input type="checkbox"/> Hazardous Waste
<input type="checkbox"/> Waste Water	<input type="checkbox"/> Asbestos	<input type="checkbox"/> Mixed Waste
<input type="checkbox"/> Soil/Sludge	<input type="checkbox"/> Fuel Oil	<input type="checkbox"/> Other (specify)
<input type="checkbox"/> Sediment	<input type="checkbox"/> Wipe Sample	_____
4. Please check the types of analyses routinely conducted at this laboratory.
 - A. Organics:

<input type="checkbox"/> Volatile Organic Compounds
<input type="checkbox"/> Semivolatile Organic Compounds
<input type="checkbox"/> Organic compounds using Isotope Dilution Techniques
<input type="checkbox"/> Organochlorine Pesticides
<input type="checkbox"/> Organophosphorus Pesticides
<input type="checkbox"/> Polychlorinated Biphenyls
<input type="checkbox"/> Congener Specific Polychlorinated Biphenyls
<input type="checkbox"/> Polynuclear Aromatic Hydrocarbons
<input type="checkbox"/> Chlorinated Herbicides
<input type="checkbox"/> Dioxins and Furans
<input type="checkbox"/> Nitroaromatics/Nitramines/Explosives
<input type="checkbox"/> Other (specify)_____
 - Perform any of the above analyses on an oily matrix.
 - Perform any of the above analyses on a plant/animal tissue matrix.
 - Perform any of the above analyses on dioxin contaminated samples.
 - Perform any of the above analyses on mixed waste samples.

B. Metals:

- General Metals Analysis
- Microwave Digestion
- Hexavalent Chromium
- Organo-Lead, Tin and Mercury
- Metals analyses using neutron activation
- Other (specify)_____

- Perform any of the above analyses on an oily matrix.
- Perform any of the above analyses on a plant/animal tissue matrix.
- Perform any of the above analyses on dioxin contaminated samples.
- Perform any of the above analyses on mixed waste samples.

c. Wet Chemistry:

- Anions (Cl^- , F^- , NO_2^- , NO_3^- , SO_4^{2-} , PO_4^{3-} , etc.)
- Physical (TDS, TSS, Conductivity, pH, etc.)
- Oxygen Demands
- Nutrients

- Phenols
- Oil and Grease
- Petroleum Hydrocarbons
- Total Organic Carbon

- Total Organic Halides
- Radioactivity
- Other (specify)_____

D. RCRA Characteristics:

- Ignitability
- Reactivity
- Corrosivity
- Toxicity

E. Leaching Procedures:

- Toxicity Characteristic Leaching Procedure
- Extraction Procedure Toxicity
- California Leach
- ASTM Leach

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F. Radiochemical:

- Gross Alpha/Beta
- Radium 226/228
- Tritium
- Gamma-Emitting Radionuclides

- Total/Isotopic Uranium
- Total/Isotopic Thorium
- Transuranic Alpha-Emitters
- Strontium 89/90

- Isotopic Plutonium
- Radon
- Other (specify)_____

G. Physical:

- Viscosity
- Bulk Density
- Proximate/Ulimate Analysis (percent moisture, percent ash, volatile matter, C, H, S, N, O)
- Chlorine

- Total Sulfur
- Forms of Sulfur
- Fuel Oil Fingerprinting
- Specific Gravity

- Percent Water (Karl Fisher Test)
- Heat Contents
- Other (specify)_____

- Perform any of the above analyses on dioxin contaminated samples.
- Perform any of the above analyses on mixed waste samples.

H. Air:

- Summa Canisters
- Tenax Tubes
- Carbon Molecular Sieves/Charcoal Tubes
- Tedlar Bags

- Polyurethane Foam Filters
- XAD Resins
- other (specify)_____

- Performs metals analyses on cellulose membrane filters.
- Performs metals analyses on air samples using an annular denuder.

I. Asbestos:

- Polarized Light or Phase Contrast Microscopy
- Scanning Electron Microscopy
- Transmission Electron Microscopy
- X-Ray Diffraction

J. Biological:

- AMES Mutagenicity Testing
- Biological Oxygen Demand
- Chlorophyll A
- Bacteriological (fecal coliform/streptococcus, etc.)

- Acute Toxicity Bioassay
- Chronic Toxicity Bioassay
- Other (specify)_____

K. Geotechnical:

- Atterberg Limits
- Permeability
- Cation Exchange Capacity
- Porosity

- Shear Strength
- Grain Size
- Other (specify)_____

- Perform any of the above analyses on dioxin contaminated samples.
- Perform any of the above analyses on mixed waste samples.

5. Do you perform field sampling activities? Yes No

6. Do you perform field testing activities? Yes No

7. Do you perform field monitoring activities? Yes No
If yes, please check nature of field monitoring activity:

- | | | |
|--|--------------------------------------|--|
| <input type="checkbox"/> Water Quality | <input type="checkbox"/> Air-Ambient | <input type="checkbox"/> Radiation |
| <input type="checkbox"/> Estuaries | <input type="checkbox"/> Air-Source | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Oceans | <input type="checkbox"/> NPDES | _____ |

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8. Do you participate in enforcement actions, emergency episodes, or special studies? Please specify.

9. Are/were you an USEPA CLP RAS contract laboratory? If yes, please provide the following information.

Volatile Organics Expiration Date: ___/___/___

Organics Expiration Date: ___/___/___

Inorganic Expiration Date: ___/___/___

Dioxin Expiration Date: _____

10. Are you an USEPA SAS contract laboratory? If yes, please provide the following information.

<u>Project Name</u>	<u>Approx. No. of samples</u>	<u>Analytes</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

SECTION 6. CHEMICAL ANALYSES

All sample analyses of water, soil, sediment, sludge, or waste shall be performed with standard USEPA methods, if available and appropriate. All method specified procedures must be followed exactly with no deviations unless modifications are specifically authorized by the USACE TM/COR. When a standard USEPA method is not available, the USACE TM/COR may approve the use of other methods (USEPA CLP, ASTM, USGS, NIOSH, DOE, and APHA/AWWA/WPCF methods). The standard USEPA methods refer to methods in the following publications, including the latest approved or promulgated revisions from USEPA.

1. Test Methods for Evaluating Solid Wastes, SW-846, Third Edition, Revision 0, September 1986 and Revision 1, July 1992.
2. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.
3. Guidelines Establishing Testing Procedures for the Analysis of Pollutants, 40 CFR Part 136, October 26, 1984.
4. Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
5. Radiochemical Analytical Procedures for Analysis of Environmental Samples, EMSL-LV-0539-17, March 1979.
6. Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, EPA/600/4-89/017, June 1988.

The USEPA CLP methods refer to analytical parameters included in the appropriate USEPA Contract Laboratory Program Statement of Work and/or the most current revision:

1. Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Document Number OLM02.0 including Revision OLM02.1.
2. Statement of Work for Organic Analysis, Multi-Media, High-Concentration, SOW Number Revision 9/88 including Revision 4/89.
3. Superfund Analytical Methods for Low Concentration Water for Organics Analysis, SOW Number Revision 10/92.

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4. Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration, Document Number ILM03.0.
5. Statement of Work for Inorganics Analysis, Multi-Media, High-Concentration, Document Number IHCO1.3.
6. Superfund Analytical Methods for Low Concentration Water for Inorganics Analysis, SOW Number Revision 10/91.
7. Statement of Work for Analysis of Polychlorinated Dibenzo-P-Dioxins (PCDD) and Polychlorinated Dibenzofurans (PCDF), Multi-Media, Multi-Concentration, Document Number DFLM01.0 including Revision DFLM01.1, September 1991.

The ASTM methods refer to the Annual Book of ASTM Standards, Section 11, Water and Environmental Technology, 1993 or the most current revision, published by the American Society for Testing and Materials.

The USGS methods refer to the Techniques of Water-Resources Investigations of the United States Geological Survey, Book 5, Third Edition, 1989 or the latest revised edition, published by the United States Geological Survey, U.S. Department of Interior.

The NIOSH methods refer to the Manual of Analytical Methods, Third Edition, 1984 and all supplements and revisions, published by the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services.

The DOE methods refer to the DOE Methods for Evaluating Environmental and Waste Management Samples, DOE/EM-0089T, Revision 1, March 1993 and the latest update or addendum, published by the U.S. Department of Energy.

The APHA/AWWA/WPCF methods refer to Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 or the latest published edition, published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

If your laboratory routinely uses an alternate method or a modification of a referenced method above, please provide the requested information for each such case in CHART E-7 (Page E-32), "ALTERNATE OR MODIFIED ANALYTICAL METHODS".

In CHART E-8 (Page E-33), "OTHER ANALYTICAL METHODS", please provide information on important tests performed by your laboratory that are not included in the reference methods above.

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CHART E-7

ALTERNATE OR MODIFIED ANALYTICAL METHODS

Laboratory Name: _____

1. Test: _____

2. If this is a modification of a referenced method,
A. Which reference method (give manual name and pages)?

B. Purpose of modification:

C. Brief description of modification:

3. If this an alternate method,
A. Purpose of use of alternate method:

B. Brief description of method:

4. Have you applied to USEPA for approval of this procedure?
(c.f., FR, Vol. 38, No. 199, October 16, 1973, Page 28760)

5. If alternate or modified methods will be used for USACE
projects, please attach all validation documentation to prove
the method works.

CHART E-8
OTHER ANALYTICAL METHODS

Lab Name: _____ Page _____ of _____

Test and Unit	Method Reference	SOPS Available?	No. of Sample per Mo

SECTION 7. FEDERAL RCRA COMPLIANCE

1. Lab Name: _____
Hazardous Waste Coordinator: _____
2. Was a RCRA inspection ever done at the lab? ____ If yes, who performed the inspection? _____
When was the inspection performed? _____
(Attach a copy of the most recent inspection report.)
3. Generally, what were the results of the inspection? _____

4. Describe the way hazardous waste is stored at the lab: _____

5. How does the lab dispose of their waste? _____

6. Describe the way hazardous waste is managed at the lab: _____

**Citation: 40 CFR 261 USEPA Regulations for Identifying
Hazardous Waste**

Subpart A - General

1. Does the lab generate any hazardous waste? _____
2. Does the lab generate any hazardous wastes that are excluded from regulations under 40 CFR 261.4? _____ Provide citation for exclusion: _____
3. Has the sample exclusion in 40 CFR 261.4(d) been invoked for the lab? _____ If yes, have all the requirements associated with this exemption been met? If not, explain:

4. Are treatability studies conducted by the lab? _____ Has the State adopted the Treatability Exclusion in 40 CFR 261.4(f)? _____ If yes, has the lab met the requirements of 40 CFR 261.4(e) and (f)? _____ If the State has not adopted the exclusion, does the lab have a RCRA Part B Permit for treatment? _____
5. Is the lab a conditionally exempted small quantity generator (SQG)? _____ Does the lab generate less than 100 kg/mo of hazardous waste and less than 1 kg/mo of acute hazardous waste? _____ How much waste does the lab produce each month? _____ Are there records available to substantiate the amount of waste generated each month? _____ Are there records available that substantiate how much waste is being stored on-site at any one time? _____ If the lab generates less than 100 kg/mo of hazardous waste and less than 1 kg/mo of acute hazardous waste, the lab is a conditionally exempted SQG. To qualify for this exemption, the lab must meet the following (40 CFR 261.5):
 - a. Hazardous waste is characterized IAW 40 CFR 262.
 - b. There is never more than 1,000 kg stored on site.
 - c. Waste is sent to a TSDF or a facility that beneficially reuses the waste, or a state permitted facility.

Are there records to substantiate the above claims? _____

6. Does the facility do any of the following (40 CFR 261.6):
- a. Recycle materials in a manner constituting disposal?_____
 - b. Burn or send to be burned hazardous wastes in a boiler or industrial furnace for energy recovery?_____
 - c. Recycle waste containing precious metals?_____
 - d. Reclaim spent lead-acid batteries?_____
 - e. Generate used oil?_____

If the lab does any of the above, they are regulated by the requirements of 40 CFR 266 (Standards for the Management of Specific Hazardous Wastes).

7. Containers previously holding a hazardous wastes may be reused for other purposes or discarded as a solid waste (40 CFR 261.7) if they are emptied by pouring, pumping, aspirating, etc. Containers that once contained an acute hazardous wastes must be tripled rinsed prior to reuse. What happens to empty hazardous waste containers? _____

Are there empty hazardous waste containers on site?_____

Have all residues been removed from the containers?_____

Have all labels been removed from the containers?_____

What happens to empty containers that once contained an acute hazardous waste? _____

Subpart B - Criteria for Identifying the Characteristic of Hazardous Waste and for Listing Hazardous Wastes

1. Does the lab have a Hazardous Waste Management Plan or an equivalent? _____

Subpart C - Characteristics of Hazardous Wastes

1. Does the facility generate any of the following types of characteristic wastes:
- a. Ignitable?_____
 - b. Corrosive?_____
 - c. Reactive? _____
 - d. TCLP? _____

Subpart D - Lists of Hazardous Wastes

1. Does the facility lab generate any of the following listed hazardous wastes:
 - a. F-listed? _____
 - b. K-listed? _____
 - c. P-listed? _____
 - d. U-listed? _____

2. Does the facility understand how to characterize their waste? _____ Is there a plan that describes the procedure? _____
List examples of the types of waste generated by the lab:

Citation: 40 CFR 262 USEPA Regulations for Hazardous Waste Generators

Subpart A - General

1. Does the facility generate less than 100 kg/mo of hazardous waste and 1 kg/mo of acute hazardous waste? _____ If yes, the facility is a conditionally exempted SQG. Does the facility store more than 1,000 kg of waste or 1 kg of acute waste at any one time? _____ If yes, the facility is NOT a conditionally exempted SQG.

2. Does the facility generates between 100 - 1,000 kg/mo of hazardous waste or store more than 1,000 kg of waste on site? _____ If yes, the facility is a SQG.

3. Does the facility generate more than 1,000 kg/mo? _____ If yes, the facility is a generator.

4. Does the generator or SQG have a USEPA identification number (40 CFR 262.12)? _____ What is that number? _____

Has the facility filed USEPA Form 8700-12, "Notification of Hazardous Waste Activity"? _____ Does the USEPA number on this form match the USEPA number on the manifests? _____

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Subpart B - Manifest

1. Does the SQG or generator use a manifest when shipping hazardous waste (40 CFR 262.20)?_____
2. Are efforts made to use the consignment states's manifest? _____If the consignment state does not have a state manifest, are efforts made to secure a manifest from the generator's state (40 CFR 262.21)?_____
3. Does the facility sign the manifests certifying that a waste minimization program is in place at the facility?_____ Is there a waste minimization program in place (40 CFR 262.20)?_____
4. Do the following land ban records accompany the manifests:
 - a. USEPA Hazardous Waste Number?_____
 - b. Corresponding Treatment Standard?_____
 - c. Waste Analysis?_____
 - d. Certification if waste meets land ban standards or if the lab is shipping lab packs for disposal (40 CFR 268.7)?_____

Subpart C - Pre-Transportation Requirements

1. Does the facility label, mark, and placard waste prior to transportation to disposal? _____ What training has been provided to those persons?_____

Who is responsible for labelling, marking, and placarding the waste leaving your facility?_____

2. SQG Requirements (40 CFR 262.34(d)):

A SQG may generate between 100 - 1,000 kg/mo of hazardous waste and store up to 6,000 kg of hazardous waste on site without a permit. If the quantity stored exceeds 6,000 kg or 180 days (270 days if waste must be transported over 200 miles to disposal), the SQG will need a TSDF permit for storage.

- a. Does the facility dispose of its waste over 200 miles away from the facility?_____
- b. Does the facility store hazardous waste more than 180 days?_____
- c. Is more than 6,000 kg of waste stored on site at any one time?_____
- d. Is the waste stored in containers (40 CFR 265.170)?_____
- e. Are containers in good condition?_____
- f. Is the waste compatible with the containers?_____
- g. Is the container always kept closed except when adding or removing waste?_____
- h. Are the containers inspected at least weekly?_____
- i. Is the date of which accumulation began clearly marked on each container?_____
- j. Is the hazardous waste stored in tanks (40 CFR 265.201)?

- k. Are only compatible wastes stored in the tank?_____
- l. Is there sufficient freeboard or containment around the tank?_____
- m. If the tank is a continuous feed tank, is there a means to stop inflow?_____
- n. Is the tank, discharge control equipment, and monitoring equipment inspected each operating day?_____

Preparedness and Prevention (40 CFR 265 Subpart C)

- a. Does the facility have an internal communications or alarm system?_____
- b. Does the facility have means to summons emergency assistance?_____
- c. Does the facility have a portable fire extinguisher?_____
- d. Is an adequate volume of water available to fire fighters?_____
- e. Is adequate aisle space provided in container storage area?_____
- f. Have arrangements been made with the local authorities to familiarize them with wastes stored at the site?_____
- g. Has an emergency coordinator been designated? _____
Name: _____
- h. Is the following information posted next to the phone?
 - Name and telephone number of the emergency coordinator?

 - Location of spill control equipment, fire alarm, fire extinguishers, etc.?_____
 - Are all employees familiar with the proper waste handling and emergency procedures relevant to their responsibilities?_____

3. Generator Requirements (20 CFR 262.34):

A generator is a person who generates more than 1,000 kg/mo of waste. A generator may accumulate hazardous waste on site 90 days or less without a permit.

- a. Does the facility store waste over 90 days?_____
- b. Is the waste stored in containers (40 CFR 265.170)? _____
- c. Are the containers in good condition?_____
- d. Is the waste compatible with the container?_____
- e. Are the containers always kept closed except when adding or removing waste? _____
- f. Are the containers inspected at least weekly? _____
- g. Is accumulation start date marked on each container?_____
- h. Is the container labeled "Hazardous Waste"?_____
- i. Is the hazardous waste stored in tanks (40 CFR 265 Subpart J)?_____
- j. Is the tank integrity good?_____
- k. Has the tank been adequately designed to hold the waste both structurally and with respect to compatibility?_____
- l. Has secondary containment been provided around the tank (40 CFR 265.192)?_____
- m. Are only compatible wastes stored in the tank?_____
- n. Is there sufficient freeboard or containment around the tank?_____
- o. If the tank is a continuous feed tank, is there a means to stop inflow?_____
- p. Is tank, discharge control equipment and monitoring equipment inspected each operating day?_____
- q. Is tank closure anticipated?_____
- r. During tank closure how was the disposal of contaminated soil, structures, and debris handled (40 CFR 265.114)?

Preparedness and Prevention (40 CFR 265 Subpart C)

- a. Does the facility have an internal communications or alarm system?_____
- b. Does the facility have means to summons emergency assistance?_____
- Does the facility have a portable fire extinguisher?_____
- c. Is an adequate volume of water available to fire fighters?_____

- e. Is adequate aisle space provided in container storage area?
- f. Have arrangements been made with the local authorities to familiarize them with wastes stored at the site? _____
- g. Has an emergency coordinator been designated? _____
Name: _____

Contingency Plan and Emergency Procedures (40 CFR 265
Subpart D)

- a. Does the facility have a Contingency Plan? _____
- b. Does the plan include a list of emergency equipment? _____
- c. Does the plan include a description of arrangements with local emergency authorities? _____
- d. Does the plan include an evacuation plan? _____
- e. Have copies of the plan been submitted to the local authorities? _____
- f. Has an emergency coordinator been designated? _____
Name: _____

Training (40 CFR 265.16)

- a. Has training been provided to each employee who handles hazardous waste? _____
- b. Has an annual update been provided? _____
- c. Are the following records maintained at the facility:
 - Job title of each position involving hazardous waste? _____
 - Name of person filling that job? _____
 - Written job description describing hazardous waste related activities? _____
 - Written description of the type of training that will be provided? _____
 - Documentation that the employees had received training? _____

4. Satellite Accumulation (40 CFR 262.34(c))

- a. Does the facility use satellite accumulations points? _____
- b. Are the containers in good condition? _____
- c. Are the containers compatible with the waste stored in them? _____
- d. Are the containers kept closed except when adding or removing waste? _____
- e. Are the containers marked "Hazardous Waste" or other words that identify the contents? _____

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Subpart D - Recordkeeping and reporting requirements

1. Are manifests kept on file for at least three years?_____
2. Are Biennial (applicable to generators only) and Exception Reports kept on file for at least three years?_____
3. Are waste analysis, waste records, etc. kept on file for at least three years?_____
4. If the lab is a generator, has a Biennial Report been filed by 1 March of each even numbered year?_____ If yes, does the report include the following:
 - Name, address, USEPA ID number for the generator?_____
 - Calendar year covered by the report? _____
 - Name, address and USEPA ID number of each TSD facility you shipped waste to?_____
 - Name, address and USEPA ID number of each transporter used?_____
 - Description of the waste?_____
 - Description of the effort for waste minimization?_____
 - Waste minimization comparison with previous years?_____
 - Generator's certification?_____
5. Has the facility filed any exception reports (40 CFR 262.42)?

6. Recordkeeping and reporting requirements for SQG (40 CFR 262.44):
 - a. Are manifests kept on file for at least three years?_____
 - b. Are waste analysis, waste records, etc. kept on file for at least three years?_____
 - c. Has the lab filed any exception reports (40 CFR 262.42)?

Subpart E - Exports of Hazardous Waste

1. Does the lab export hazardous waste?_____ If yes, see 40 CFR 262 Subparts E for requirements.

Subpart F - Imports of Hazardous Waste

1. Does the lab import Hazardous waste?_____ If yes, see 40 CFR 262 Subpart F for requirements.

Citation: 40 CFR 266 USEPA Standards for Management of Specific Hazardous Wastes and Facilities

Subpart E - Used Oil Burned for Energy Recovery

1. Does the lab generate used or waste oil? _____
2. Is the used oil sent to disposal? _____ If yes, the used oil must be sampled and if characteristic or mixed with a listed hazardous waste the used oil must be managed and disposed of as a hazardous waste.
3. If the used oil exceeds the parameters listed in the table below, the used oil is considered to be off-specification:

Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum
Flash Point	100 °F minimum

Does analysis of the used oil indicate all levels less than those presented in the table? _____ If yes, the used oil is specification used oil and hence is not regulated under RCRA. If the used oil exceeds the levels presented in the table, it is considered to be off-specification used oil and the oil must be burned in an industrial furnace (40 CFR 260.10) or a boiler (40 CFR 260.10).

4. Does the used oil typically contain over 1,000 ppm total halogens? _____ If yes, the used oil is presumed to be a hazardous waste unless the generator can prove otherwise. Thus, this used oil becomes a hazardous waste fuel and must be burned in boilers and furnaces that are permitted under 40 CFR 264. If the hazardous waste fuel oil is stored on site, all generator regulations apply to this waste.
5. Is the oil properly disposed of? _____
 - a. Specification used oil is not regulated under RCRA, however, the state may have special handling and disposal requirements.
 - b. Off-specification used oil must be burned in an industrial furnace or boiler.
 - c. Hazardous waste fuel must be burned in permitted furnaces and boilers.

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- Is the disposal method documented?_____ Are there records to substantiate the characterization of the used oil?_____ Are there records identifying the energy recovery facility used or the disposal facility used?_____
6. Does the lab sell/distribute their used oil directly to a burner? _____ Does the lab sell/distribute their used oil to another marketer?_____ If yes to either question, the lab is considered a marketer of used oil.
 7. If the lab is a marketer of off-specification used oil, are the following requirements fulfilled:
 - a. Analysis of used oil kept on file for both on-spec and off-spec used oil?_____
 - b. Notification to USEPA of off-spec used oil management activities? _____
 - c. Invoice system used?_____ The following items must be included in the invoice system:
 - An invoice number.
 - The lab's USEPA ID number and the receiving facility's number.
 - The names and address of the generator's facility and the receiving facility.
 - The quantity of off-spec used oil to be delivered.
 - The dates of shipment or delivery.
 - The following statement: "This used oil is subject to USEPA regulation under 40 CFR Part 266."
 - d. Has the lab secured a signed notice from the burner or marketer certifying: that the facility has notified USEPA of their location and management activities; and that the burner will only burn the off-spec oil in an industrial furnace or boiler?_____
 8. Recordkeeping requirements for generators of used oil that meets specifications:
 - a. Are copies of the analyses kept for three years?_____
 - b. Does the record include the name and address of the facilities receiving the used oil?_____
 - c. Does the record include the dates of shipment or delivery? _____
 9. Recordkeeping requirements for generators of off-specification used oil:

- a. Are copies of the invoices kept for three years? _____
 - b. Are copies of the required notices kept on file for three years? _____
10. Does the lab burn used oil for energy recovery? _____ If yes, the requirements of 40 CFR 266.44 must also be met. Check the regulations to ensure compliance.

Subpart F - Recyclable Materials Utilized for Precious Metal Recovery

- 1. Does the lab accumulate precious metals for reclamation? _____
If yes, has the lab notified USEPA of the reclamation activities? _____ Does the lab use a manifest when transporting precious metals for reclamation? _____
- 2. Does the lab store recyclable materials? _____
 - a. Does the lab maintain records showing the volume of materials stored at the beginning of the calendar year? _____
 - b. Does the lab maintain records showing the volume of materials generated during the calendar year? _____
 - c. Does the lab maintain records showing the volume of materials remaining at the end of the calendar year? _____
- 3. Are these materials being speculatively accumulated? _____
If yes, all generator standards apply to these materials. Basically the material is being speculatively accumulated if the material is being stored and there is no real plans or market for reclamation. See 40 CFR 261.1 (c) for exact definition.

Subpart G - Spent Lead-Acid Batteries Being Reclaimed

- 1. Does the lab store spent batteries? _____ If yes, are these batteries destined for disposal? _____ If yes, these batteries are to be managed and disposed of as hazardous waste. If no, are these batteries destined for reclamation? _____ If yes, has the lab notified USEPA of this activity? _____ If the lab is storing spent batteries for reclamation, 40 CFR Part 264 applies.

SECTION 7. FEDERAL RCRA COMPLIANCE (continued)

The lab shall prepare to have the following documents, if applicable, ready for review during the inspection.

1. USEPA Notification Form 8700-12
2. USEPA Identification Number
3. SQG Permit
4. RCRA Part A Permit
5. RCRA Part B Permit
6. NPDES Permit
7. Manifests
8. Waste Analysis Records
9. Land Ban Records
10. Exception Reports
11. Biennial Reports
12. Annual Reports
13. Training and Personnel Files
14. Contingency Plan/Spill Prevention Control and Countermeasure (SPCC) Plan
15. Agreements with Local Emergency Authorities
16. Used Oil Records
17. Hazardous Waste Management Plan