AES, Inc.

American Environmental Solutions, Inc.
100 Carleton Avenue
Central Islip, New York 11722
Email: pendyenveng@optonline.net
Phone: (631) 234-7971 Fax: (631) 234-7972

LETTER OF TRANSMITTAL

DATE:	6/16/06	Project No.	0060
ATTENTION:	Mr. Robert Cozzy		
RE:	National Rubber		
	NYSDEC Index No. W2-0967-03-07		

TO Mr. Robert Cozzy
NYSDEC-DER
625 Broadway
Albany, NY 12233

WE ARE SENDING YOU the following ☑ Attached ☑ Under separate cover via _____

☐ Shop Drawing ☐ Catalog Cuts ☐ Plans ☐ Samples ☐ Proposal

☐ Copy of Letter ☐ Change Order ☐ Schedule ☐

COPIES	DATE	NO.	DESCRIPTION
2	June 16, 2006		Soil Vapor Sampling Plan

THESE TRANSMISSIONS ARE:

☐ For your approval ☐ For your review and comment (s) ☐ Resubmit _____ copies for approval

☐ For your use ☑ As per your request ☐ Submit _____ copies for distribution

REMARKS:

RECEIVED
JUN 20 2006
REMEDIAL BUREAU B

COPY TO: Mr. Jospeh Peck
NYSDEC

SIGNED: *Brian Pendergast*

If enclosures are not as noted, kindly notify us at once.

AMERICAN ENVIRONMENTAL SOLUTIONS, INC.

SOIL VAPOR SAMPLING WORK PLAN

VOLUNTARY CLEANUP AGREEMENT
NATIONAL RUBBER ADHESIVES, INC.
NYSDEC INDEX NO. W2-0967-03-07
AES PROJECT NO.: 0060

PREPARED FOR:

CORASTOR HOLDING COMPANY, INC./
HAMIL STRATTEN PROPERTIES, LLC
25-09 BROADWAY
ASTORIA, NEW YORK 11106

JUNE 2006

PREPARED BY:

AMERICAN ENVIRONMENTAL SOLUTIONS, INC.
100 CARLETON AVENUE
CENTRAL ISLIP, NEW YORK 11772

SUBMITTED TO:

MR. JOSEPH PECK
DIVISION OF ENVIRONMENTAL REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233

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1.0 INTRODUCTION

American Environmental Solutions, Inc. (AES) has developed this Soil Vapor Sampling Work Plan for the former National Rubber Adhesives, Inc. site (the site) located at 38-25 9th Street, Long Island City, New York. The site consists of a 30,000 square foot one story building located on the east side of 9th Street, which was formerly used for adhesives manufacturing. The site is currently used as a marble fabrication shop, an automotive repair shop and a production studio. The purpose of this plan is to outline soil vapor sampling activities to be conducted in order to evaluate on and off-site contamination as a result of former on-site operations.

In October 2005 AES completed a Remedial Investigation at the site. The scope of work presented in this Soil Vapor Sampling Work Plan was developed in order to meet the additional investigative requirements of the Brownfield Cleanup Program (BCP), the NYSDEC's Spills Management Section and Hazardous Waste Remediation Section as described in the NYSDEC letter concerning the site, dated September 18, 1996.

2.0 SCOPE OF WORK

During the October 2005 Remedial Investigation, soil vapor samples were collected on-site. A previous off-site investigation conducted by AES in May 2003 indicated elevated soil vapor readings across 9th Street. The purpose of this additional soil vapor sampling is to evaluate the potential for soil vapor migration and intrusion into adjacent structures and to evaluate the potential for human exposure to contaminants in the northern portion of the building.

AES will collect five soil gas samples across 9th Street (west side) and three in the northern portion of the site building. Off-site soil vapor sampling points will be installed in the sidewalk adjacent to the structures located across 9th Street. The proposed soil gas sampling locations are shown on Figure 1.

3.0 INSTALLATION OF SOIL VAPOR SAMPLING POINTS

On-site samples will be collected by driving a temporary soil gas probe in the aggregate material just below the slab in order to evaluate the potential for contamination immediately beneath the building. Off-site soil vapor samples will be collected in the sidewalk along the perimeter of structures located across 9th Street. Semi-permanent soil gas probes will be installed with a tripod mounted hollow stem auger drill rig provided by Enviroprobe Service Inc, of Westmont, New Jersey. Once in place, each soil gas probe will be fitted with a polyethylene tube (1/8 inch) and purged using a vacuum pump gas probe and a total VOC measurement collected using a photionization detector (PID). Porous backfill will be used to create a sampling zone one to two feet in length. Soil vapor probes will be sealed with a bentonite slurry for at least three feet and the

remainder of the borehole will be backfilled with clean material. Soil vapor sampling point construction is shown on Figure 2.

4.0 SOIL VAPOR SAMPLING

A qualified field sampling technician will collect soil vapor samples. The AES Qualifications Package is included in Appendix A. The following procedures will be followed when collecting soil vapor samples:

- After installation of implants, one to three well volumes (i.e. the volume of the sample probe and tube) will be purged prior to collecting the samples.
- Flow rates for both purging and collecting must not exceed 0.2 liters per minute.
- implants will be sealed to the surface with a non-VOC containing product such as permagum grout or beeswax to prevent infiltration of outdoor air during sample collection.

After purging, a soil gas sample will be collected by connecting the tubing to a Summa canister. A Summa canister is a stainless steel vessel which has been decontaminated and certified to be free of VOCs. The Summa canister is prepared by the contract laboratory so that the sample vessel is under a high vacuum (<1 hr torr:<28" Hg). A grab sample from each soil gas probe will be collected by opening the canister valve and the vacuum is used to "pull" the sample into the canister. Each soil gas sample will be analyzed for VOCs by EPA Method TO-14. Analysis will also include hexane, heptane, MEK and MTBE.

The field sampling team will maintain sample logs including the following information:

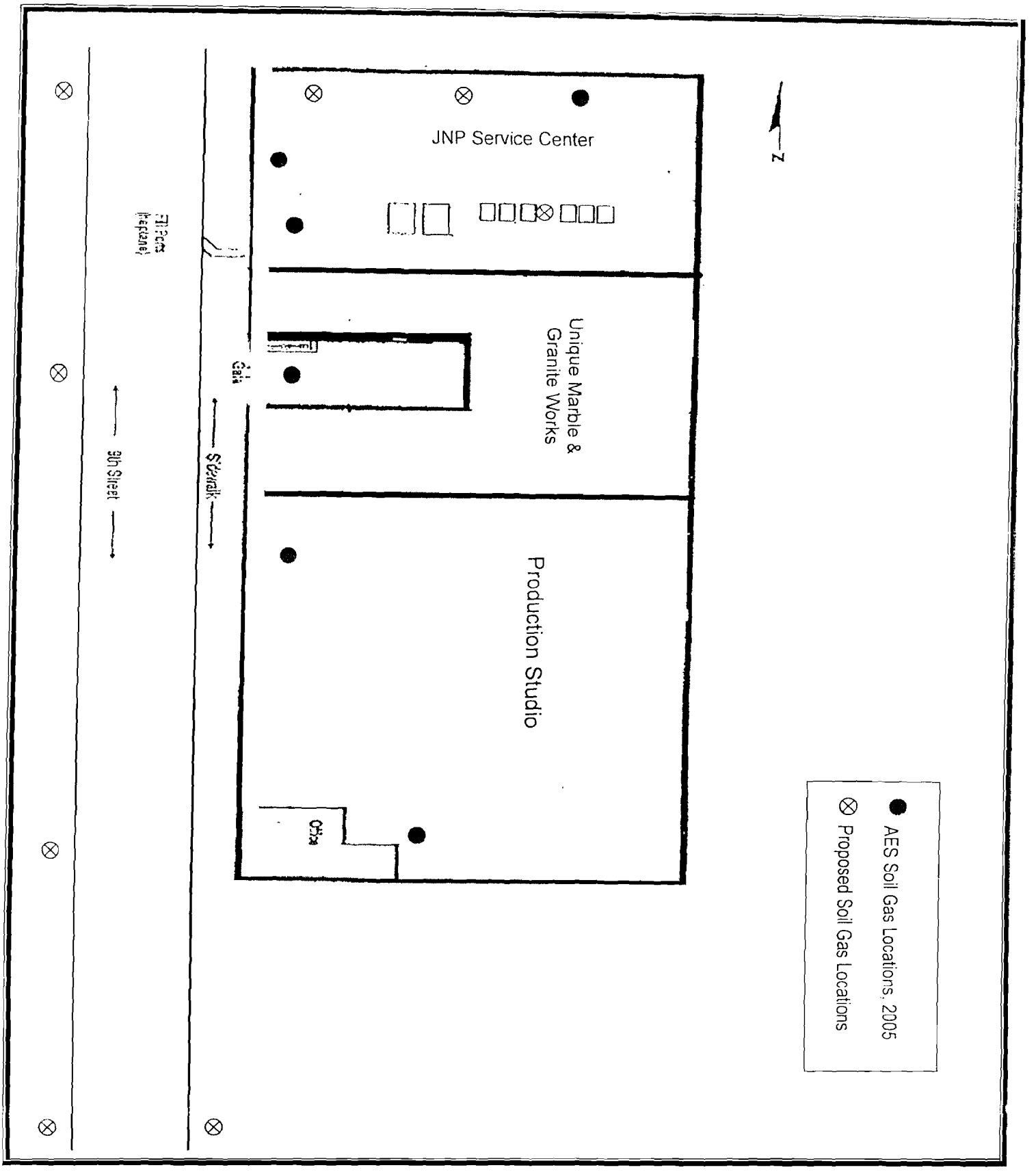
- Sample identification
- Data and time of sample collection
- Sampling depth
- Name of sampler
- Sampling methods and devices
- Purge volumes
- Volume of soil vapor extracted
- The vacuum before and after samples are collected in canisters
- Apparent moisture of the sampling zone
- Chain of custody protocols and records used to track samples from sampling point to analysis

5.0 LABORATORY ANALYSIS

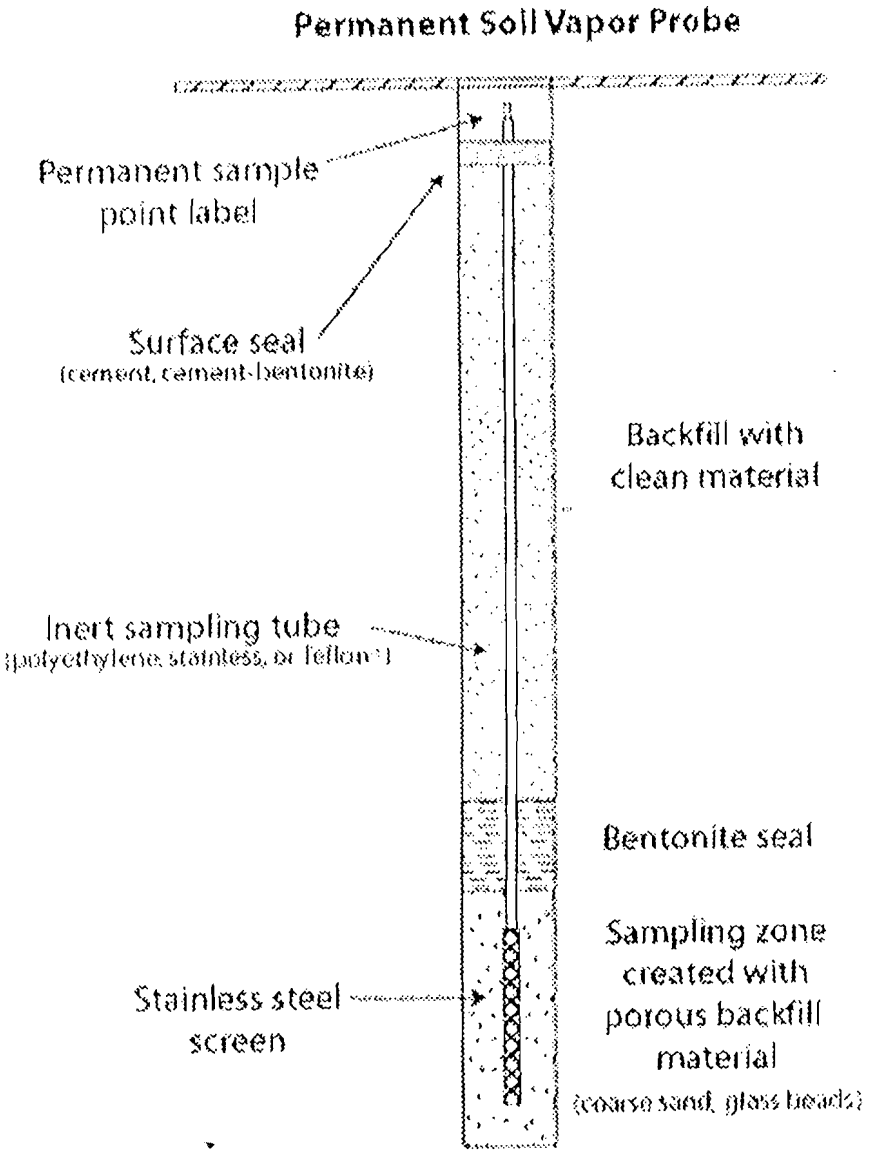
The soil samples will be shipped to Con-Test Laboratories of East Longmeadow, Massachusetts, NYSDOH ELAP Number 10899. The laboratory statement of qualifications is included in Appendix B. A Chain-of-Custody form will be completed for the sample shipment. Approximately eight samples will be collected for analysis. Each soil gas sample will be analyzed for VOCs by EPA Method TO-14. Analyses will also include hexane, heptane, MEK and MTBE.

6.0 FINAL REPORT

A Soil Vapor Sampling Summary Report will be prepared which will contain detailed information that summarizes the investigative findings, extent of soil vapor contamination and a summary of analytical results, in tabular form, with corresponding NYSDOH vapor intrusion guidance. Results for all samples and tests conducted will be included in this report. Also to be included are a written narrative, boring logs, an updated site map depicting sampling point locations and remedial recommendations.



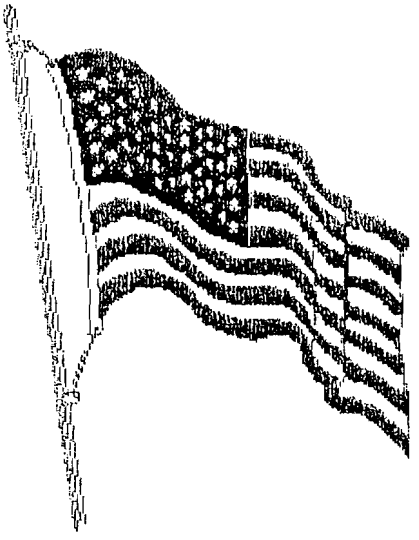
Soil Gas Sampling Points **National Rubber** **38-25 9th Street** **Long Island City, NY**	AES Project No. 0060 Soil Vapor Sampling Work Plan	**Figure 1** **American Environmental Solutions, Inc.**



Soil Vapor Sampling Point Construction **National Rubber** **38-25 9th Street. LIC**	AES Project No. 0600 Soil Vapor Sampling Work Plan	**Figure 2** **American Environmental Solutions, Inc.**

APPENDIX A:
AES STATEMENT OF QUALIFICATIONS

AMERICAN ENVIRONMENTAL SOLUTIONS, INC.



"Engineering Solutions That Work"

Services

AES offers numerous environmental services in the areas of investigation, management, compliance, permitting, remediation, impact analysis and pollution prevention.

Our services include:

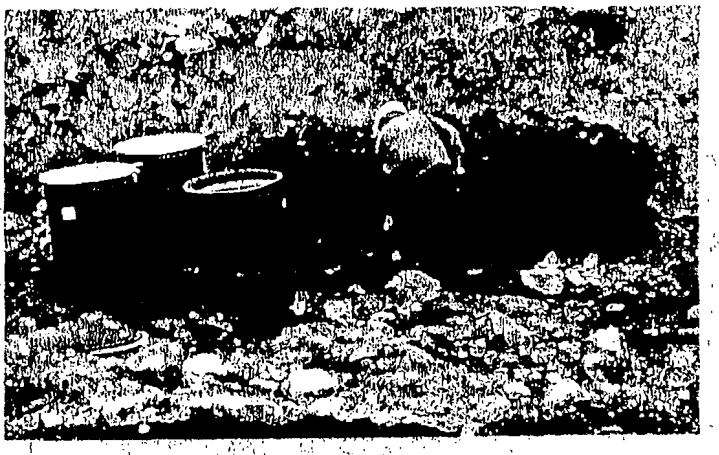
- Phase I Environmental Site Assessments
- Soil and Groundwater Investigations
- Remedial System Design and Construction
- Underground Storage Tank Management Services
- Environmental Management and Regulatory Support Services
- Environmental Compliance Audits
- Risk Characterization
- Environmental Litigation Support and Expert Witness Testimony
- Natural Resource Damage Assessment (NRDA) Services
- Environmental Impact Studies and Planning
- NEPA Assessments for the Wireless Communications Industry
- Groundwater Flow and Contaminant Transport Modeling
- Pollution Prevention Services
- ISO 14000 Environmental Services including Planning, Audits & Training

Services

AES provides various services to the insurance industry supporting their environmental claims process.

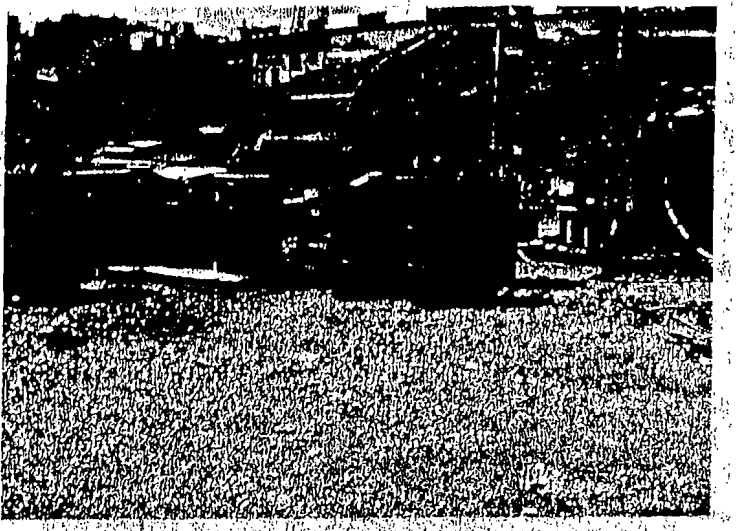
The specific types of services we provide are as follows:

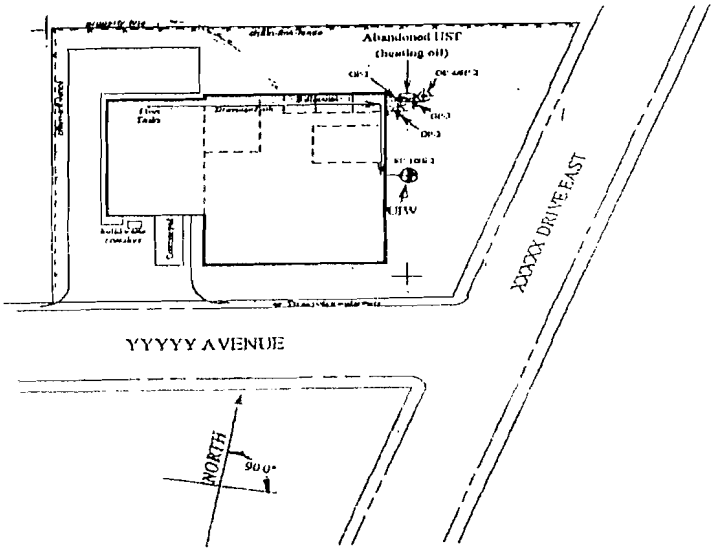
- Environmental Claim Investigation
- Third Party Impact Evaluations
- Soil and Groundwater Sampling and Analysis
- Remedial Alternative Feasibility Reviews
- Remedial Construction Management
- Comprehensive Bid Solicitation
- Contract Reviews and Revisions
- Invoice Audits to Contain Costs
- Regulatory Negotiation
- Status and Claim Closure Reporting
- Natural Resource Damage Assessment (NRDA) Services
- Defense Litigation and Expert Witness Testimony



Commitment

The commitment at AES is to provide our clients with the best possible service, combining the latest technological advancements in the environmental field with the most cost-effective solution to the client's needs.





AMERICAN ENVIRONMENTAL SOLUTIONS, INC.
STANDARD OPERATING PROCEDURES

Guidelines for Effective Field Notes

EFFECTIVE FIELD NOTES

- Philosophy
- Note-Taking Practice
- Classic Elements
- Photodocumentation
- References

Field Note Philosophy

Effective documentation:
-provides a complete record which can be referred to at a later date
-enables report preparation
-supports regulatory action/litigation

Note Taking Practice

-Identify the writer (yourself)
-Number the pages
-Enter the information in chronological order
-Note time (military style) at beginning of each entry
-Block print or legible cursive
-Sign and date each page
-Use language that is objective, factual and free of inappropriate or personal material
-Correct errors with a single line crossout, initials and date (don't obscure the incorrect information)

CLASSIC EVENTS

-Project Framework
-Setting
-People
-Field Events
-Conversations
-Ancillary Records

Project Framework

Work Plan
-Field event objective
-Any subsequent deviations from work plan

Health and Safety Plan
-Record of "tailgate" safety meeting
-Level of PPE used
-Air monitoring results
-Exposure work hours

Setting

-Site Location
-Weather
-Pertinent Surrounding Sites and Activities
-Site Map/Photo Map

People

-Full Names
-Responsibilities
-Visitors
Name & Organization
Health & Safety Training Level
Purpose On-Site
-Times On & Off-site

AMERICAN ENVIRONMENTAL SOLUTIONS, INC.
STANDARD OPERATING PROCEDURES

FIELD EVENTS

-Sampling Locations
-Collection Method
-Tools & Decontamination
-Associated QA/QC Samples
-Sample Send Off
-Documenting the Aftermath

Sampling Location

-Defer to Work Plan Site Map or Survey Data (note any deviations)
-Accurate field measurement using compass and tape measure with site landmark as a point of origin
-Remember to accurately record sampling depth

Collection Method

-General Description (surface grab, hand auger, drill rig, direct push, etc)
-Media, appearance, color, odor and field screening equipment readings
-Detailed procedural description
    Grab, Homogenization or Filtration Method
    Order of Aliquot Collection
    Jars and Preservatives used

Tools & Decontamination

-Instrument Calibration
-Tool Description
    Type
    Material
-Decontamination Method
    Describe sequential procedures
    Identify soaps and solvents used

Associated QA/QC Samples

-Field Blanks
    Note time Field Blank created
    Record Analyte Free Water Batch Number
-Field Duplicates
    Identify blind duplicate ID number & time
    Note Associated Field Sample
-Matrix Spikes and Matrix Spike Duplicates

Sample Send Off

-Preservation
-Packaging
-Destination Laboratory
-Requested Analyses

Documenting the Aftermath

-The Leftovers (IDW)
    PPE, trash, spent decon solutions, soil cuttings, development /purge water
-Destination Unknown
    Dumpsterized, Drummed, Spread Out, Recharged
-Site Restoration
    Pavement Repairs

Recording Conversations

-Focus on information pertinent to MPI project responsibilities
  - Specific Tasks and Issues under Oversight
  - Analytical or Monitoring Results Transmitted
  - Split Sampling Conducted, etc.

-Notification of a perceived dangerous condition

Ancillary Records

-Sampling logs (soil boring, well purging, soil vapor, etc.)
-Chain of Custody Forms
-Daily Quality Control Reports
-Certification Sheets (pre-cleaned jars, analyte–free water, etc.)
-CLP Field Sheets, Traffic Reports, Tags, etc

Photodocumentation

-Include a reference point or landmark
- Use descriptive placards
  - Sampling locations
  - Sample Number
  - Date
  - Time

-Annotate Photos

References

-USACE Requirements for the Preparation of Sampling and Analysis Plans, Appendix F (September 1, 1994)
-MPI ARCS II SOP #MP-FPQA-009 (January 1995)
-NYSDEC TAGM Phase II investigation Oversight Note Taking (Rev. November 21, 1990)

AMERICAN ENVIRONMENTAL SOLUTIONS, INC.
STANDARD OPERATING PROCEDURES

How to Document Field Activities:

I. Introduction

This guideline is to provide general reference information on documentation of field activities.

II. Limitations

These limitations apply to all documentation of field activities excepting requirements of project-specific plans for documentation of field activities.

III. Definitions

The following terminology is applicable to the documentation of field activities.

Field Data: Any and all information collected during activities at a site under study.

Field Data Sheet: A formatted data reporting form for collection of information and/or technical data during field activities. Such forms are formatted and used to provide a formatted basis for in-field calculations and/or record information such as stratigraphic logs and other in situ measurements.

Field Logbook: A controlled document used to generate a chronological record of field activities and identify the personnel involved.

IV. Guidelines

The documentation of field activities at uncontrolled hazardous waste sites is surrounded by a variety of legal guidelines that must be understood prior to the commencement of field activities. Inspections conducted by ARCS are authorized under various legislative mechanisms, including RCRA, CWA and CERCLA/SARA. Activities conducted under these regulations connote an understanding by the inspector of the overall constitutional, statutory, and evidentiary legal requirements as they apply to the site inspection documentation and to the rights of potentially responsible parties.

Documentation of an investigative team's field activities often provides the basis for technical site evaluations and other such related written reports. All records and notes generated in the field will be considered controlled evidentiary documents and may be subject to scrutiny in litigation. Consequently, it is essential that the site manager or his/her designee, either of whom may be called to testify, pay attention to detail, and document to the extent practicable every aspect of the inspection.

Personnel designated as being responsible for documenting field activities must be aware that all notes taken may provide the basis for preparing responses for legal interrogatories.

AMERICAN ENVIRONMENTAL SOLUTIONS, INC.
STANDARD OPERATING PROCEDURES

Field documentation must provide sufficient information and data to enable reconstruction of field activities. Numerically serialized field logbooks provide the basic means for documenting activities. Additionally, preformatted data reporting forms referenced to field logbook entries may be used. The following information must be provided on the inside front cover of each field logbook:

1. Project Name (Site Name)
2. Site Location
3. Site Manager
4. Date of Issue

Control and maintenance of field logbooks is the responsibility of the site manager.

If the person responsible for documenting site inspection activities is other than the site manager, the transfer must be noted in the logbook.

Documentation of Field Activities

Field log book entries must be legibly written and provide an unbiased, concise, detailed picture of all field activities. Use of preformatted data reporting forms must be identifiable and referenced to field notebook entries.

Step-by-step instructions and procedures for documenting field activities are provided below. These instructions and procedures are organized as follows:

1. The first set of instructions and procedures provides general guidance relating to the format and technique in which field logbook entries are to be made. It is important that field activities are documented in the most organized, chronological manner possible.

2. The first written page identifies the date, time, site name, location, AES personnel and their responsibilities, other non-AES personnel, observed weather conditions, and verification that work plan and QA requirements were discussed with listed on-site personnel. Additionally, during the course of site activities, deviations from the work plan must also be documented.

3. It is recommended that entries be made on a new page at the start of each day's field activities.

4. The start of a new page at the beginning of each day's activities should also identify observed weather conditions, any changes in AES personnel from the previous day's activities, as well as changes in and their responsibilities; other non-AES personnel; and verification that the work plan and QA requirements were discussed with listed on-site personnel. Additionally, any deviations from the work plan must also be documented.

5. If a photo log is to be generated, leave space for it on the last 5 to 10 pages of the logbook. It is recommended that the photo descriptions be generated tabularly and not combined with notes on general site activities.

6. All photos taken must be traceable to field logbook entries. It is recommended to reference photo locations on the site sketch or map. Information in the photo log must include the date, time, photographer, sample number, roll number, frame number, photo ID number and description. Indicate whether the film is print or slides in the column for roll number.

7. All entries must be made in black ink only. Waterproof ink is recommended.

8. All entries must be made in language that is objective, factual and free of personal feelings or other terminology that might prove inappropriate.

9. All entries must be printed as neatly as possible.

10. All entries must be accompanied by the appropriate military time (such as 1530 instead of 3:30)

11. Errors must be lined through with a single line so as not to obscure the original entry and initialed. No erroneous notes are to be made illegible.

12. The persons documenting must sign and date each page as it is completed.

13. A second person, not directly involved with the field activities being documented, must read through each page to ensure that the notes are legible and contain as concise and detailed a picture of the activities as possible. When satisfied, the second person countersigns the page. Review by a second person should occur as soon as possible after the notes were taken. It is recommended that such review occur at the end of each day's activities.

14. If the individual designated for field documentation tasks transfers those tasks to another team member, he or she must clearly document this transfer of responsibility as a logbook entry.

BRIAN T. PENDERGAST
PRESIDENT

FIELDS OF EXPERTISE:

Mr. Pendergast conducts prepurchase environmental due diligence audits for international and domestic clients and prepares field sampling plans, quality assurance/quality control programs, health and safety plans, and closure reports to comply with consent orders at industrial and commercial sites. He conducts Phase I and Phase II environmental assessments at various commercial properties, evaluating ambient air, indoor air quality, soil gas, soil and groundwater contamination. Mr. Pendergast supervises field investigations, subcontracted services, sampling programs, and asbestos oversight services. He conducts remedial investigations and performs health and safety oversight at hazardous sites. Mr. Pendergast has over fifteen years experience working in the environmental remediation industry.

REGISTRATIONS:

OSHA 40 Hr. HAZWOPER
OSHA Supervisor Training
OSHA Permit Required Confined Space Entry Attendant
New York State and West Virginia Asbestos Inspector
New York State Asbestos Project Monitor
New York State Air Sampling Technician

EDUCATION:

B.S., Physics, State University of New York (SUNY) at Stony Brook, 1987
M.S., Environmental Science/Waste Mgmt., SUNY at Stony Brook, (pending)

PROFESSIONAL SUMMARY:

Mr. Pendergast formerly served as the New York based Regional Account Manager of the Strategic Environmental Division of Vertex Engineering Services, Inc. from 1998 through 2003, Vice President of Gannett Fleming Engineers and Planners and Eder Associates Consulting Engineers, P.C. from 1988 through 1998, and Hydrologic Technician for the United States Geological Survey from 1987 through 1988. His responsibilities included:

- Health and Safety Officer at National Presto and Preferred Plating Corp. USEPA Superfund sites.
- Managing Federal Superfund Sites and NYSDEC remedial projects.
- Obtaining Beneficial Use Determinations from the NYSDEC
- Attending project meetings when they relate to environmental issues
- Approval of subcontractors invoices
- Preparing environmental claims for the NYCDEP
- Assisting with soil characterization disputes, securing waste disposal approvals
- Providing OSHA HAZWOPER Training
- Assisting with health and safety issues

SELECTED PROJECT EXPERIENCE:

- Project Scientist for New York City Department of Environmental Protection. Managed and performed oversight for hazardous materials survey including lead paint, asbestos and PCB sampling of Hunts Pint Food market pumping Station, Bronx; Goldwater Hospital Pumping Station, Roosevelt Island; Coler Hospital Pumping Station, Roosevelt Island; and Roosevelt Island main Pumping Station, Roosevelt Island. Prepared hazardous material survey report.

- Managed the investigation of municipal pumping stations for the presence of hazardous materials and environmental concerns, for The Cannon Avenue Pumping Station, New York. Prepared hazardous Materials Survey report, which included field investigation results, laboratory data and recommendations. Addressed a range of environmental concerns including asbestos, lead based paints, PCB oil and light ballast's, mercury lighting, and other hazardous building materials, prepared work confined space work plan.

- Managed a subsurface investigation and collected approximately 1,100 soil samples to classify in-situ soils using chemical analysis for waste characterization to support the Flushing Bay CSO Retention Facility Project. Developed field sampling plan coordinated laboratory, drilling and GeoProbe contractor efforts.

- Managed Health and Safety and Confined Space training program for all engineers and construction crews working on the project designed to improve the capacity of municipal sewers. Provided daily permitting of confined spaces and continuous air monitoring for carbon monoxide, hydrogen sulfide, explosive gases, and oxygen. Prepared daily reports to the resident engineer used to evaluate confined space air quality and worker exposure.

- Supervised subsurface investigation at a major construction site to classify in-situ soils based on chemical analysis and physical characteristics. Assisted contractor and city's consultant in negotiating alternate disposal standards for excavated materials. Negotiated with NYSDEC to determine appropriate disposal sited and saved significant disposal fees. Supervised gas detection services. Supervised staff with the monitoring of methane, hydrogen sulfide, carbon monoxide, and oxygen concentrations to support the confined space/sewer entry work at the project. Engineering controls were employed to establish safe working conditions and minimize downtime based on Eder Associates continuous monitoring results. Prepared a Soil Excavation Plan based on the in-situ soil characterization to minimize disposal costs by accurately defining the quantity and extent of contaminated soils in response to the City's concern that contaminated soil was loaded directly rather than stockpiled for disposal to minimize additional handling and cross-contamination. Directed canvass of disposal facilities approved to receive each category of soil (industrial waste, contaminated soil, and hazardous waste), excavated from the project site. Developed strategy to limit soil disposal costs by evaluating disposal alternatives.

- Managed large scale pump and yield tests at a landfill to determine the hydraulic properties of the refuse as a way to determine the performance characteristics and optimum pumping rates for leachate level measurements in recovery wells and in adjacent observation wells.

SCOTT A. ZOLLO
VICE PRESIDENT

FIELDS OF EXPERTISE:

Mr. Zollo currently serves as a Vice President with AES's Long Island Offices. Amongst his duties are management and oversight of large construction projects, oversight of excavation activities, design and implementation of soil and groundwater remediation systems, Phase I ESA's, planning and management of surficial and subsurface investigations including assessments of ambient air, indoor air quality, soil gas, soil and groundwater contamination, coordinating UST removals, environmental claims oversight, development of remediation strategies. He has also serves as a liaison between clients, contractors and regulatory agencies in numerous states.

REGISTRATIONS / CERTIFICATIONS:

Engineer-in-Training – New York (October 4, 1994)
OSHA 40 Hr. HAZWOPER
OSHA Permit Required Confined Space Entry Attendant
MTA LIRR Roadway Worker Protection Training
MTA NYCT Roadway Worker Protection Training
CSXT, Inc. Roadway Worker Protection Training
NACE Basic Coating Inspector Training

EDUCATION:

B.S., Civil Engineering, 1994
Union College, Schenectady, New York

PROFESSIONAL SUMMARY:

Mr. Zollo formerly served as an Environmental Engineer / Project Manager with Vertex's New York City and Long Island Offices. He managed projects for the delineation, remediation and monitoring of contaminated groundwater and soil. Mr. Zollo provided regulatory communications, meetings, negotiations and reporting for his clients.

As a Senior Engineer / Project Manager with H2M's Melville, New York office, Mr. Zollo served as the Project Manager for a large account serving several national insurance corporations and a regional electric supply corporation. His responsibilities consisted of subsurface site assessment and remediation programs for residential and power supply facility/right-of-way sites in New York City and Long Island. His management duties included budget planning and tracking, client communications, work plan and report preparation. His technical duties included remedial activity oversight, soil and groundwater contamination delineation, planning, implementing, and analyzing pilot tests for soil and groundwater remediation, the design, installation, operation, and maintenance of remediation equipment. Mr. Zollo's regulatory duties involving the NYSDEC Regions 1, 2, 3 and 6 consisted of regulatory meetings to develop, discuss and negotiate delineation and remediation strategies; obtaining approvals of delineation and remediation Work Plans; and the reporting of environmental investigations and remediation.

As an Environmental Engineer with Gannett Fleming / Eder Associates Locust Valley, New York office, Mr. Zollo served as the Field Engineer for large accounts serving a petroleum refining and retail corporation and a freight transportation corporation. His responsibilities consisted of subsurface site assessment and remediation programs for gasoline stations, bulk storage facilities, and railyard sites in New York City, Long Island, Upstate New York, West Virginia, and Massachusetts. His management duties included work plan and report preparation, and oversight and maintenance of all field equipment. His technical duties include soil and groundwater contamination delineation; planning, implementing, and analyzing pilot tests for soil and groundwater remediation; and the installation, operation, and maintenance of remediation equipment. Mr. Zollo's regulatory duties involving the NYSDEC Regions 1, 2, 3, 4 and 9 consisted of regulatory meetings to develop, discuss and negotiate delineation and remediation strategies, obtain approvals of delineation and remediation Work Plans and the reporting of environmental investigations and remediation. Additional work performed during this period included supervision of the lead paint health and safety programs for the Williamsburg Bridge Rehabilitation and Verrazano Narrows Bridge Painting Programs in New York City. His management duties included client communications; report preparation; and oversight and training field inspection personnel. His technical duties included planning, implementing, and oversight of health and safety protocol and air monitoring for lead paint removal activities. These tasks involved frequent regulatory interfacing with NYC environmental managers.

As a Field Environmental Engineer at Environmental Planning and Management, Inc., Mr. Zollo supervised the lead paint health and safety program for the Manhattan Bridge Rehabilitation Program in New York City. His management duties included client and regulatory agency communications; work plan and report preparation; and oversight and training field inspection personnel. His technical duties included planning, implementing, and oversight of health and safety protocol for lead paint removal activities. These tasks involved frequent regulatory interfacing with NYC environmental managers.

SELECTED PROJECT EXPERIENCE:

Port Authority of New York and New Jersey Projects:

Verrazano Narrows Bridge, Port Authority of NY and NJ – Conducted daily particulate monitoring and emissions evaluation during structural steel reconditioning and coating project; conducted inspections of lead waste storage areas to ensure compliance with regulatory criteria and contract specifications; conducted inspections of abrasive blast containments to ensure compliance with contract specifications; conducted inspections following lead debris cleanup to ensure overall cleanliness prior to containment removal, assisted NACE inspector during holiday and coating thickness inspections

New York City Department of Transportation (NYCDOT) Projects:

Williamsburg Bridge, New York City Dept. of Transportation - Conducted daily particulate monitoring and emissions evaluation during structural steel rehabilitation project; conducted inspections of lead waste storage areas to ensure compliance with regulatory criteria and contract specifications; conducted inspections of paint removal containments to ensure compliance with contract specifications; conducted inspections during all phases of work regarding lead debris cleanup to ensure overall project cleanliness and reduction of community exposure to respirable lead particulates; reviewed

medical monitoring documentation to ensure compliance with federal lead regulations; instituted field modification and documentation of containment design revisions during paint removal relative to steel replacement

Manhattan Bridge, New York City Dept. of Transportation - Conducted daily particulate monitoring and emissions evaluation during structural steel replacement and rehabilitation project; conducted inspections of lead waste storage areas to ensure compliance with regulatory criteria and contract specifications; conducted inspections of paint removal containments to ensure compliance with contract specifications; conducted inspections during all phases of work regarding lead debris cleanup to ensure overall project cleanliness and reduction of community and worker exposure to respirable lead particulates; reviewed medical monitoring documentation to ensure compliance with federal lead regulations; instituted field modification and documentation of containment design revisions during paint removal relative to steel replacement; conducted negotiations with community monitors to achieve goal of non-hazardous job completion; conducted both area and personal monitoring to determine OSHA and EPA lead regulation compliance; conducted demolition oversight during steel, stonework, soil and concrete removal; conducted inspections of installation of steel and concrete; conducted concrete materials testing.

New York City Department of Environmental Protection (NYCDEP) Projects:
Pelham Bay Landfill – Conducted monthly flare and landfill gas collection well monitoring for landfill gas parameters; conducted monitoring well gauging; conducted maintenance of landfill gas monitoring wellheads

Flushing Bay Combined Sewer Overflow (former Brooklyn Ash Disposal site) – Conducted health and safety air monitoring services during installation of box culvert tie-in to the stormwater retention tank and sewer bypasses; conducted soil classification sampling related to soil excavation and disposal approvals for stormwater retention tank contract CS4-4G

New York City Department of Sanitation (NYCDOS) Projects:
Freshkills Landfill – Managed large scale pump and yield tests (24-hr. and 72-hr.) at a landfill to determine the hydraulic properties of the refuse as a way to determine the performance characteristics and optimum pumping rates for leachate level measurements in recovery wells and in adjacent observation wells

Town of Oyster Bay:
Town of Oyster Bay Landfill - Conducted quarterly groundwater monitoring sampling and analyses to monitor leachate plume migration from landfill; conducted equipment condition assessments and temporary field repairs of dedicated groundwater sampling systems; determined extent-of-impact and contaminant migration utilizing contaminant concentration mapping

CSXT, Inc.:
Arlington Yard site – Conducted quarterly groundwater monitoring sampling and analyses to monitor contaminant plume migration resulting from illegal waste disposal operations; conducted annual benthic monitoring of wetlands areas; conducted monthly monitoring and maintenance of onsite phytoremediation system utilized for contaminant plume migration control, conduct

quarterly soil gas monitoring to evaluate landfill venting; determined extent-of-impact and contaminant migration utilizing contaminant concentration mapping

Jewish Home:
Salem Fields Cemetary site - Conducted quarterly groundwater monitoring sampling and analyses to monitor contaminant plume migration resulting from illegal waste disposal operations; conducted quarterly soil gas monitoring to evaluate landfill venting; completed cut-and-fill volume calculations for landfill grading estimates; determined extent-of-impact and contaminant migration utilizing contaminant concentration mapping

EMPLOYMENT HISTORY

Sept. 2001 – April 2003	Vertex Engineering Services, Inc. 31 West Main Street Patchogue, New York 11772
Sept. 2000 - Sept. 2001	H2M Group 575 Broad Hollow Road Melville, New York 11747
Dec. 1998 - Sept. 2000	Gannett Fleming Engineers and Architects, P.C. 480 Forest Avenue, Post Office Box 707 Locust Valley, New York 11560
July 1997 - Dec. 1998	Environmental Planning and Management, Inc. 1983 Marcus Avenue, Suite C-106 Lake Success, New York 11042
June 1995 - July 1997	Eder Associates, Environmental Scientists and Engineers 480 Forest Avenue, Post Office Box 707 Locust Valley, New York 11560

PROFESSIONAL REFERENCES

Available upon request

LOUIS G. SCHWARTZ, JR., P.E.
ASSOCIATE

Mr. Schwartz is an Associate with the firm with sixteen years experience in project management, inspection, and design. He has worked on the design and layout of large roadway drainage projects, landfills, and site work. He has also prepared traffic impact studies, zoning studies and parking designs. Most of his work with our firm also included highway inspection for local municipalities assuring compliance to plans and specifications.

Prior to associating with our firm, Mr. Schwartz worked for Schneider Engineering for ten years as a Project Engineer where he worked on the design and layout of large roadway drainage projects, landfills, and site work. He has also prepared traffic impact studies, zoning studies and parking designs. His work with this firm also included highway inspection for local municipalities assuring compliance to plans and specifications.

Prior to working for Schneider Engineering, Mr. Schwartz worked for Dvirka & Bartilucci Consulting engineers as a Staff Engineer. In that capacity, he worked on the design of municipal drainage projects, the design and repair of streets, several studies involving the removal of lead and copper in water supply systems and inspection of municipal sanitary sewer installations. He also served as Assistant Resident Engineer for an EPA superfund landfill closing. In his work, Mr. Schwartz had to adhere to plans and specifications to comply with state and local procedures.

Mr. Schwartz also was employed by Balcor Property Management in Atlanta, Georgia as a Construction Engineer. He was responsible for the repair and maintenance of twenty-one apartment complexes in the Southeast United States. His duties included preparation of capital repair budgets, managing schedules and emergency repair projects, coordination of company personnel and contractors work, design of repairs, structural inspections and preparation of reports and contract documents.

For two years, he worked for Louis Schwartz Development Corporation, as a Project Engineer. His duties included managing industrial and commercial building construction.

Finally, for four years he served as a Division Officer in the United States Navy. He served onboard the guided missile cruiser USS Horne (CG-30), where he was a Gunnery and Missile Officer. His duties included maintenance and repair of analog and digital electronic systems, sophisticated hydraulic systems and explosives. He also designed and managed structural repairs made during a major overhaul.

- B.S. Civil Engineering Northwestern University 1985
- Naval Surface Warfare Officers School
- Naval Guided Missile School

LICENSES

New York State P.E. License 77006

PRIOR EXPERT TESTIMONY

- Suffolk County Supreme Court
- Nassau County Supreme Court
- Village of Garden City
- Village of Westhampton Beach
- Village of Southampton
- Town of Brookhaven
- Town of Hempstead
- Town of Islip
- Town of North Hempstead
- Town of Southampton

CORY WEIMAR
ENVIRONMENTAL TECHNICIAN

FIELDS OF EXPERTISE:

Mr. Weimar serves as an environmental field technician experienced in soil and groundwater sampling and air monitoring. He has served on numerous projects monitoring excavation and drilling activities ensuring proper procedures were followed and maintaining accurate documentation of activities. Mr. Weimar has served as Site Safety Officer and conducted site inspections.

REGISTRATIONS:

OSHA 40 Hr. HAZWOPER

EDUCATION:

General Education Diploma, 1998

PROFESSIONAL SUMMARY:

Mr. Weimar formerly served as an environmental field technician for the Environmental Division of Vertex Engineering Services, Inc. from 1999 through 2003. His responsibilities included:

- Compiling various reports including Phase I and Phase II Environmental Site Assessments, Health and Safety Plans, Field Sampling Plans and Material Handling Plans
- Utilizing various instruments such as a Combustible Gas Indicator (CGI) and PID detector to monitor air quality
- Sampling soil and groundwater and maintaining proper documentation such as Chain of Custody forms and communicating with laboratories regarding test results
- Supervising work sites to ensure proper safety specifications were met

SELECTED PROJECT EXPERIENCE:

- NYCDDC Contract BED-763 Cropsey Avenue, Brooklyn, New York, monitoring soil and air for VOCs
- NYCEDC Contract 19009 Springfield Gardens, Queens, New York, monitoring soil and air for VOCs
- NYCDEP Contract ER-AC-1 Alley Creek, Queens, NY collected 300 soil samples for waste classification
- NYCDOS Fresh Kills Landfill Staten Island, New York, monitoring air for combustible gases with CGI monitor

SUBCONTRACTOR REFERENCE FORM
American Environmental Solutions, Inc.

Name of Project	NYC DDC BED-763
Location of Project	Cropsey Avenue, Brooklyn, NY
Description of Project	Installation & Testing of New 36" Water Main
Description of Subcontractor Work	Soil Sampling, Air Monitoring & Consulting Services
Value of Subcontractor	Approximately $60,000
Year Completed (must not be > 5 years old)	2003
Name of Owner or Architect or Engineer who supervised the project	New York City Department of Design and Construction
Contact Name of Owner or Architect or Engineer who supervised the project	Herve Carrie Jocelyn Damis, PE
His/Her Title/Position for the referenced project	Project Manager/Environmental Engineer Deputy Director, Brooklyn Construction
His/Her current telephone number	(718)391-1286 / (718)250-5018

Name of Project	Alley Creek Drainage Area Improvements
Location of Project	Queens, New York
Description of Project	Sewer Reconstruction Project
Description of Subcontractor Work	In-situ Soil Sampling
Value of Subcontractor	Approximately $100,000
Year Completed (must be within 5 years)	2003-2004
Name of Owner or Architect or Engineer who supervised the project	New York City DEP URS Consultants
Contact Name of Owner or Architect or Engineer who supervised the project	Reza Marandi, PE Nick Marrafini
His/Her Title/Position for the referenced project	Deputy Chief of Construction Engineer in charge/project manager
His/Her current telephone number	718-762-7127/201-262-7000

Name of Project	NYCDDC Contract HWK-472 Reconstruction of Flushing Avenue
Location of Project	Flushing Avenue, Brooklyn, New York
Description of Project	Installation of new water main/sewer
Description of Subcontractor Work	Soil sampling and analysis, project air monitoring, dewatering permit and environmental consulting services.
Value of Subcontractor	Approximately $50,000
Year Completed (must be within 5 years)	2004
Name of Owner or Architect or Engineer who supervised the project	New York City Department of Design and Construction
Contact Name of Owner or Architect or Engineer who supervised the project	Jocelyn Damis, PE
His/Her Title/Position for the referenced project	Deputy Director, Brooklyn Construction
His/Her current telephone number	718-250-5018

SUBCONTRACTOR REFERENCE FORM
American Environmental Solutions, Inc.

Name of Project	NYCDDC Contract HWQ-631A
Location of Project	Somerville, NY
Description of Project	Reconstruction of sewer and water main in the Somerville area
Description of Subcontractor Work	Soil Sampling, Air Monitoring & Consulting Services
Value of Subcontractor	$25,000
Year Completed (must not be > 5 years old)	2003-2004
Name of Owner or Architect or Engineer who supervised the project	New York City Department of Design and Construction/Daniel Frankfurt PC
Contact Name of Owner or Architect or Engineer who supervised the project	Thomas Donnelly Jr. PE
His/Her Title/Position for the referenced project	Vice President, Construction Management Services
His/Her current telephone number	(212) 689-9400 ext. 350

Name of Project	NYCDDC Contract RED-354
Location of Project	Staten Island, NY
Description of Project	Reconstruction of sewer and water main on Richmond Road, Staten Island, NY
Description of Subcontractor Work	Soil Sampling, Air Monitoring & Consulting Services
Value of Subcontractor	$30,000
Year Completed (must be within 5 years)	2003-2004
Name of Owner or Architect or Engineer who supervised the project	New York City DDC
Contact Name of Owner or Architect or Engineer who supervised the project	Chris N. Igweatu
His/Her Title/Position for the referenced project	NYCDDC Project Manager
His/Her current telephone number	718-605-2174

Name of Project	Capital Project 1900009, Reconstr. of Sewer & Water Main in Springfield Gardens Area
Location of Project	Springfield Gardens, Queens, New York
Description of Project	Installation of new sewer and water main.
Description of Subcontractor Work	Water and soil sampling and analysis, plan preparation, disposal coordination and environmental consulting services.
Value of Subcontractor	Approximately $50,000
Year Completed (must be within 5 years)	2003 - 2004
Name of Owner or Architect or Engineer who supervised the project	New York City Economic Development Corporation (NYCEDC)/Daniel Frankfurt, PC
Contact Name of Owner or Architect or Engineer who supervised the project	Thomas Donnelly, Jr. P.E.
His/Her Title/Position for the referenced project	Vice President of Construction Management Services
His/Her current telephone number	(212)689-9400 ext. 350

AES CHAIN OF CUSTODY

American Environmental Solutions, Inc
100 Carleton Avenue, Central Islip, New York 11772
Phone: (631) 348-1702 Fax: (631) 348-3628

Project Name:	Project Manager:	Sampler (signature):	Sampler (print):
Project Address:	AES Job No.:		
Client:	Rush by:		

Sample Information — Type: SS = split spoon, G = grab, C = composite; B = blank
Matrix: L = liquid, S = soil, SL = sludge; A = air*, W = wipe
air* - volume (liters) include flow rate (CFM)

ID	Date	Time	Type	Matrix	Sample Location	Total No. Containers
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

Relinquished by: (signature)	Printed Name and Agent	Date: Time:	Received by: (signature)	Printed Name and Agent	Date: Time:
Relinquished by: (signature)	Printed Name and Agent	Date: Time:	Received by: (signature)	Printed Name and Agent	Date: Time:

Comments:

AES, Inc.

SOIL BORING LOG

PROJECT:	BORING NO.:
LOCATION:	DRILLER:
DATE:	INSPECTOR:

	SAMPLER	CASING	GROUNDWATER DEPTH MEASUREMENTS				GROUNDWATER COMMENTS
TYPE			RIM ELEV.:				
SIZE (ID)			DATE:				
HAMMER (LB)			TIME:				
FALL (IN)			DEPTH:				

SAMPLE			PID (ppm)	SOIL CLASSIFICATION
DEPTH	DEPTH	PEN/REC		

GENERAL COMMENTS

AES, Inc.

AIR MONITORING LOG

PROJECT		DATE	
LOCATION		INSPECTOR	
WEATHER			

TIME	PID Reading (ppm)	Comments

GENERAL COMMENTS

AES, Inc.

Daily Report Form

AES PROJECT No.:		DATE:	
LOCATION:		Day of the Week: S M T W T F S	
WEATHER:			

Contract Number:

Project Description:

Borough:

Contractor:

City Agency:

GENERAL COMMENTS

CONSTRUCTION AND DEMOLITION DEBRIS TRACKING DOCUMENT

MANIFEST NO. _____

GENERATOR/DISPOSAL FACILITY SECTION

1. GENERATING FACILITY NAME

ADDRESS

TELEPHONE NO.

2. HAULER NAME

ADDRESS

TELEPHONE NO.

3. Part 360 Permit No. _____

Permit Expiration Date

4. DISPOSAL FACILITY NAME

ADDRESS

TELEPHONE NO.

5. MATERIALS TRANSPORTED

MATERIAL DESCRIPTION

QUANTITY (TONS or CY)

6. GENERATOR'S CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this document and attached statements and exhibits were prepared by me or under my supervision and direction and are true to the best of my knowledge and belief, and that I have the authority as _____ (job title) of _____ (entity) to sign this tracking document pusuant to 6 NYCRR Part 360. I am aware that any false statement made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

PRINTED NAME	SIGNATURE	DATE

HAULER SECTION

7. HAULER CERTIFICATION OF RECIEPT OF DEBRIS DESCRIBED IN SECTION 5

PRINTED NAME	SIGNATURE	DATE

8. HAULER DISCREPANCY (any discrepancies from sections 2, 4, or 5)

DISPOSAL SECTION

9. DISPOSAL CERTIFICATION OF RECIEPT OF DEBRIS DESCRIBED IN SECTION 5

PRINTED NAME	SIGNATURE	DATE

10. DISPOSAL FACILITY DISCREPANCY (any discrepancies from sections 2, 4, or 5)

SIGN AND RETURN TO GENERATING FACILITY WITHIN ONE WEEK

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE 03-22-200

PRODUCER
TERRY GIBSON INS AGENCY, INC/PHS
127111 P:(866)467-8730 F:(800)308-5459
101 MIDDLE SETTLEMENT RD
NEW HARTFORD NY 13413

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURER A: Hartford Fire Ins Co
INSURER B: Twin City Fire Ins Co
INSURER C:
INSURER D:
INSURER E:

INSURED
AMERICAN ENVIRONMENTAL SOLUTIONS INC
100 CARLETON AVE.
CENTRAL ISLIP NY 11722

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDIN ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY COMMERCIAL GENERAL LIABILITY CLAIMS MADE [X] OCCUR [X] Business Liab GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [ ] PRO-JECT [X] LOC	12 SBA BD0127	04/18/06	04/18/07	EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$2,000,0 $300,000 $10,000 $2,000,00 $4,000,00 $4,000,00
A	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS	12 SBA BD0127	04/18/06	04/18/07	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$2,000,00 $ $ $
	GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
	EXCESS LIABILITY OCCUR [ ] CLAIMS MADE DEDUCTIBLE RETENTION $				EACH OCCURRENCE AGGREGATE	$ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	12 WEC KS7323	04/18/06	04/18/07	[X] WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE POLICY LIMIT	 $100,000 $100,000 $500,000
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

Those usual to the Insured's Operations. Certificate Holder is an Additional Insured per the Business Liability Coverage form SS 00 08, attached to the policy.

CERTIFICATE HOLDER [X] ADDITIONAL INSURED; INSURER LETTER: A

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE TH EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAI 30 DAYS WRITTEN NOTICE (10 DAYS FOR NON-PAYMENT) TO THE CERTIFICA HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

APPENDIX B:
LABORATORY STATEMENT OF QUALIFICATIONS

1.0 INTRODUCTION

1.1 Brief Company History

Established in 1984, Con-Test, Inc. was founded providing environmental consulting and testing services to a variety of clients throughout the Northeast. In 1994 Con-Test celebrated its tenth year of providing a broad range of "*Quality*" Environmental Services. Initially, Con-Test's laboratory testing operations was limited to Industrial Hygiene analysis mainly in support to in-house consulting services. Con-Test's analytical laboratory rapidly expanded its capabilities throughout the years to include numerous techniques in classical (wet) chemistry, metals, and organics. We are recognized for our longstanding quality and reliability of data. Con-Test is also a Woman-Owned Business (WBE) and a Disadvantaged-Business Enterprise (DBE).

Initially, Con-Test's laboratory testing operations was limited to Industrial Hygiene analysis mainly in support to in-house consulting services. Con-Test's analytical laboratory rapidly expanded its capabilities throughout the years to include numerous techniques in general (wet) chemistry, metals, and organics.

Con-Test is one of the only independent laboratories in all of New England with both prestigious AIHA and NELAC Certifications! Con-Test Analytical Laboratory is also individually certified in many areas and states by a diverse group of recognized organizations and consistently demonstrates proficiency in numerous analyses and matrices under established programs.

In 1996, Con-Test Analytical Laboratory, became a privately owned, independent laboratory, providing environmental and industrial hygiene analytical services with full AIHA accreditation and AIHA ELLAP (Environmental Lead) accreditation. Con-Test Analytical Laboratory is also individually certified in many areas and states by a diverse group of recognized organizations and consistently demonstrates proficiency in numerous analyses and matrices under established programs.

1.2 Capabilities

The laboratory has the capability to perform environmental analytical testing for nearly all water, aqueous, air, soil or solid matrices.

The Laboratory currently serves a diverse range of clients in an even broader range of analytical services. Analyses are performed to satisfy the following regulatory requirements and purposes:

- State Certifications (MA, CT, NY, NJ, NH, RI, VT, AZ)
- National Pollutant Discharge Elimination System (NPDES)
- Industrial Pretreatment Program (IPP)
- Resource Conservation and Recovery Act (RCRA)
- EPA Requirements

- OSHA Compliance Requirements
- Code of Federal Regulations (CFR) Requirements
- Massachusetts Department of Environmental Protection (DEP)
- Massachusetts Department of Environmental Protection EPH/VPH
- Safe Drinking Water Act (SDWA)
- Clean Water Act
- Hazardous Waste Characterization
- Massachusetts Water Resources Authority (MWRA)
- Water Compliance
- Groundwater Monitoring Programs
- Industrial Hygiene / Indoor Air Quality
- Microbiology
- Well Water Testing
- MGP
- Perimeter Monitoring
- Soil Vapor
- Ozone Precursors
- TO Compendium Methods (TO-14A, TO-15, TO-17, TO-4, TO-10, TO-13, TO-1, TO-2)
- Massachusetts Department of Environmental Protection Air-Phase Petroleum Hydrocarbons (APH) Method
- WBE Certified (Woman Owned Business Enterprise)
- DBE Certified (Disadvantaged Business Enterprise)
- CT DOT DBE Certified (Connecticut Dept. of Transportation Disadvantaged Business Enterprise)

Con-Test Analytical Laboratory is an established laboratory which realizes the need for remaining on the cutting edge of environmental technology. Automation of systems to the greatest extent possible is a primary objective of the laboratory. Current applications and systems are continually being expanded and updated whenever possible to achieve unrivaled quality and information turnaround. Con-Test believes that the use of state of the art instrumentation, including data management systems is imperative in maintaining needed efficiency and effectiveness of services. The laboratory is equipped with the latest instrumentation including Gas Chromatographs (GC), GC Mass Spectra (GC/MS), Lachat Auto Ion Analyzer, Inductively Coupled Plasma-Atomic Emission Spectrometers (ICAP), ICP-Mass Spec, Atomic Absorption Spectrometers (AAS), Fourier Transformer Infra-Red Spectrometer (FTIR), Automated Mercury Analyzer, Accelerated Solvent Extractor (ASE) and a Laboratory Information Management System (LIMS).

The Laboratory is committed to providing analytical services of the highest quality achievable, while offering a high level of client commitment, balancing response and prompt turnaround with quality and reliable analyses. The laboratory strives to maintain, and ultimately exceed, established quality standards when providing objective and cost effective services in today's competitive environmental marketplace. The laboratory's Quality Assurance program ensures accuracy of data from testing methodologies to provide a high level of confidence in test

results. The laboratory can also provides important support for an Industrial Hygiene and Environmental Companies needing technical services, applications, and methodologies.

1.3 Laboratory Personnel

The Laboratory is staffed with highly experienced core management individuals and technically competent and experienced laboratory personnel. See resumes in ***Attachment "A"*** of this document.

1.4 Confidentiality

All work performed on behalf of our clients is treated with the strictest confidentiality. Analytical results are never released to parties other than the client except at the client's verbal or written request.

2.0 CERTIFICATIONS, ACCREDITATION, & REGULATORY AGENCIES

Con-Test Laboratory holds and maintains certification and accreditation from a number of different state, federal, local, and regulatory agencies encompassing all regulated services. Copies of all Con-Test's current laboratory certifications are located in ***Attachment "B"*** of this Qualifications Package.

2.1 Certifications and Licenses

2.1.1 Professional

- **NELAP: National Environmental Laboratory Accreditation Conference**
  NY Lab ID no: 10899
- **American Industrial Hygiene Association**
  Accredited Laboratory #100033
  Industrial Hygiene—Metals, Organic Solvents
  Environmental Lead---Paint, Soil, Dust, Air
- **AIHA Environmental Lead Laboratory Accreditation Program** (ELLAP) (NLLAP Recognized)
- **WBE (Woman Owned Business) through SOMWBA (State Office of Minority & Woman Owned Business**
- **DBE (Disadvantaged Business Enterprise) through SOMWBA and CT DOT (Connecticut Dept. of Transportation)**

2.1.2 State

- Commonwealth of Massachusetts Chemical Analysis of Potable, Non-Potable, and Microbiological Analysis of Water Certificate of Approval, Lab ID# MA100
- Connecticut State Approved Public Health Laboratory #PH-0567 - Potable Water, Wastewater, Sewage, and Soil

- ELAP Accreditation, State of New York Environmental Laboratory Certification #10899 for Solid & Hazardous Waste Air and Emissions, Potable/ Non-Potable Water
- New Hampshire (State of), Department of Environmental Services (Laboratory ID#2516): Drinking Water and Wastewater Analysis Certificate
- Rhode Island and Providence Plantations, Department of Health, Analytical Laboratory License
- Vermont Lead Certification
- Arizona Department of Health Services (Laboratory # AZ0648)
- New Jersey DEP (Laboratory # MA007)

2.2 Participation in Proficiency Sample Programs

In the maintenance of certification and accreditation in the applicable areas, Con-Test participates in a wide range of environmental laboratory proficiency programs in which Con-Test's expertise is demonstrated through the analysis of proficiency samples.

Those proficiencies, which are regularly participated in, include the following:

- New York DOH Proficiency Studies
- DMR QA Studies
- Proficiency Analytical Testing Program (PAT)
- Environmental Lead Proficiency Analytical Testing (ELPAT)

2.3 Use of External Laboratories

When samples are received for an analysis which is not performed by the laboratory, a qualified outside laboratory is found to perform the analysis. Only outside laboratories that have demonstrated proficiency in the analysis requested are selected. Laboratories are deemed proficient if they are either:

1.) Accredited by AIHA
2.) Certified by a state or recognized "Quality" agency
3.) Able to demonstrate acceptable accuracy and precision in the analysis of spiked samples generated by the Con-Test laboratory.

Only Laboratories following approved and standard methods will be used for outside work.

3.0 FACILITIES AND EQUIPMENT

3.1 Facilities

3.1.1 Location of Facility

Con-Test Analytical Laboratory's full-service facility is located at 39 Spruce Street, East Longmeadow, Massachusetts. The laboratory is easily accessible from both Interstate I-91 and the Massachusetts Turnpike I-90.

3.1.2 Sample Reception and Login Department

The functions of this department include receiving and logging-in samples and the required analyses into the Laboratory Information Management System (LIMS). All samples are labeled with a lab number assigned by the LIMS. This login process allows for more efficient tracking of samples, turnaround times and completion of data.

3.1.3 Air Analysis Department

This department is dedicated to air analysis of individual solvents, metals, volatile organic compounds, semi-volatile PAH compounds (high and low volume), PCB's (high and low volume), dust and landfill gases. The air analysis laboratory performs EPA TO Compendium Methods TO-1, TO-2, TO-14, TO-15, TO-13, TO-4, TO-10, TO-17 and several source emission methods. We also perform methods for landfill gases and non-methane hydrocarbons as well as ozone precursors (PAMS). NIOSH methods for the analysis of metals, solvents, dust and other contaminants are performed in the main laboratory. All test methods are in full compliance with EPA, NIOSH and AIHA protocols.

3.1.4 Quality Assurance and Control

The purpose of Con-Test's Quality Assurance Plan is to ensure the production of quality, objective, and cost effective services to our clients. The Laboratory operation offers a high level of client commitment, balancing response and prompt turnaround with quality and reliable analyses.

3.1.7.1 Quality Assurance Goals

A. Establish and maintain the quality management and assurance systems in the production of consistently reliable and accurate "quality data" of known precision and bias.

B. Monitor analytical methods to insure use of appropriate, EPA, State, or recognized agency endorsed or approved methodology insuring that client's needs for precision, accuracy, and sensitivity are met or ultimately exceeded.

C. Ensure the use of sound laboratory techniques and practices, by competent, trained individuals.
D. Establish and maintain Standard Operation Procedures for all processes producing uniformity and definition.
E. Maintain systems for early identification of problems and defined procedure for quick resolution.
F. Promote a positive attitude toward improvement of total quality.

3.1.5 Administrative and Customer Service Department

This department is responsible for the final generation, invoicing, edd's and mailing of all reports, as well as constant client contact to answer questions and solve problems for both the laboratory and the clients.

3.2 Equipment

The Con-Test Facility utilizes state-of-the-art equipment to support a broad range of environmental investigation, evaluation, and remediation services. The following partial listing of the instrumentation available to support laboratory analyses indicates the breadth and depth of our capabilities.

CON-TEST ANALYTICAL LABORATORY EQUIPMENT LIST

The following is a list of commonly utilized major analytical equipment for the entire laboratory. *Please note: This is not a complete listing.*

Equipment	Quantity	Make & Model
Gas Chromatographs	12	Hewlett Packard - 5890/6890 (1) PID/ELCD-Purge and trap (2) PID/FID-Purge and trap (3) ECD/ECD-Dual direct injectors (2) FID/ECD-Direct inject, 1 w/EZFlash (2) FID/FID-Dual direct injectors (1) FID/TCD-Direct inject w/autosampler (1) FPD – Direct inject
GC/MS	10	Hewlett Packard – MSD5970/72/73 (4) Purge and trap w/Archon autosampler (2) 5970 (1) 6890 Direct inject (3) Air Entech Autosampler & MiniCan system w/ 1 dynamic diluter (1) Purge & Trap w/Archon/Aerotrap autosamplers
Autosamplers (Summa)	5	(3) Entech 7016CA, Entech7016CA-L

Concentration Workstations Workstations	5	(2) Zymark Turbovap II (2) N-EVAP III (1) S-EVAP
Concentrator (AIR)	4	(4) Entech 7100
Dynamic Dilution System (AIR)	1	Entech 4600
Atomic Absorption Spectrometer	2	(2) Perkin Elmer - 3110 Perkin Elmer – Analyst 600
Mercury Analyzer System	1	Leeman PS200-II
ICP	2	(1) Perkin Elmer ICP- Optima 4300 Dual View Simultaneous
ICP-MS ELAN9000	1	(1) Perkin Elmer ICP-MS –
Ion Chromatograph	1	(1) Dionex ICS-2000
Automated Digestion System	4	(1) Digi prep jr. (1) Digi prep MS (2) Environmental Express Autobloc
Automated Analyzer FIA[+]	1	Lachat Quick Chem 8000 series
Total Hydrocarbon Analyzer	1	Buck Scientific Model 404
Spectrophotometer	2	(1) ThermoSpectronic Genesys 20 (1) Bausch&Lomb Spec 601
Kjeldahl Apparatus 1002	1	Tecator, Kjeltec System Unit
Flashpoint Apparatus	1	Pensky-Martin Closed Cup
Cyanide Distillation Unit	1	Midi-Distillation 10-station
Accelerated Solvent Extractor (ASE)	4	(3) Dionex ASE-200 (1) Dionex ASE-300
TCLP/SPLP Extractors	2	50 station capacity
Sonic Dismembrator	2	Tekmar 600 sonic disruptor
pH / Ion meter	2	Orion EA 920
Polarizing Light Microscopes	3	Olympus (BH2)
Stereomicroscopes	3	(2) Olympus (VMF-1x) (1) Bristoline Bristolscope
Conductivity Meter	1	YSI Model 35

Summa/Silco Canisters	over 350	Various
Flow Regulators	over 200	Various
Summa Canister Cleaner	2 Systems w/multiple positions	Various

4.0 CAPABILITIES AND METHODOLOGIES

4.1 Inorganics Laboratory Capabilities

Air analyses are performed according to EPA-approved, state approved or NIOSH-accepted methodologies. Methodologies approved by the National Institute for Occupational Safety and Health (NIOSH) are employed for standard types of industrial hygiene analysis. All methods utilized in the laboratory are subject to rigorous quality control protocols. Following are the major analytical techniques utilized to analyze inorganic samples.

4.1.1 Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)

Inductively Coupled Argon Plasma is used for metals analysis. The automated Perkin-Elmer OPTIMA 4300 DV which simultaneously uses both axial and radial viewing to obtain lower detection limits without sacrificing dynamic range. This system is completely computer-controlled and equipped with WinLab software that enables the autosampler to automatically perform quality control analysis required by each protocol, as well as to take corrective action if necessary. A second ICP, the ICP-MS performs simultaneous analyses for multiple elements with a greater degree of productivity.

4.1.2 Atomic Absorption (AA)

The Perkin-Elmer AAnalyst 600 Graphite Furnace Atomic Absorption instrument is used for metals analysis requiring detection limits below 10 parts per billion (ppb). The Perkin Elmer 3110 Flame instrument performs lead analyses for a variety of matrices, i.e. metals in air.

4.1.3 Mercury Analyzer

The Leeman PS 200 II mercury analyzer is capable of analyzing many materials using cold vapor and is used in Mercury in Air analysis.

4.1.4 Inductively Coupled Plasma Mass Spectrometer (ICP-MS)

Inductively Coupled Plasma Mass Spectrometer is used for high-technology metals analysis. The automated Perkin-Elmer SCIEX ICP-MS which offers detection limits equal to or better than those attainable using

Graphite Furnace Atomic Absorption (GFAA) with much higher productivity. ICP-MS can handle both simple and complex samples matrices and has detection limit capabilities that are superior to those obtained in ICP-OES. This system is completely computer-controlled and equipped with WinLab software that enables the autosampler to automatically perform quality control analysis required by each protocol, as well as to take corrective action if necessary. A second ICP, the ICP-OES performs simultaneous analyses for multiple elements.

4.1.5 Organic Air Analysis Capabilities

Con-Test currently has five Hewlett Packard 5890 Gas Chromatographs (GC) for air analysis. Two of the GC systems are set up with dual flame ionization detectors (FID) and direct injection autosamplers with a one hundred sample capacity. These two systems are employed for air analysis according to NIOSH protocols. One HP GC 5890 is equipped with FID/TCD detectors and is utilized for landfill gases and non-methane hydrocarbons. One 5890 is used for Sulfurs and two 6890 are Dual-ECD.

Thermal desorption or Purge & Trap volatiles are analyzed on a Hewlett-Packard 5970 MSD. This GC/MS is interfaced with sampling equipment from both techniques and has the capabilities of quickly changing from one analysis to the other. EPA Compendium of Methods for the Determination of Toxic Compounds in Ambient Air, TO-1, TO-2 and TO-17 are analyzed by this system. A multi-media thermal desorption tube is used for all three methods. Qualitative scans with NBS Library identifications are also performed with the same or different media.

Hewlett-Packard (GC/MS) system is dedicated to summa canister analysis by EPA Method TO-14 and TO-15. Both the low and high level autosamplers have capacity for sixteen summa canisters. Two systems also have 21-position MiniCan autosamplers. The concentrator utilizes liquid nitrogen for subambient cooling for the removal of water from humid samples. Both ambient air and source level analysis is performed.

4.2 Methodologies

Only the most commonly requested air analysis methods are listed. Other analytes and alternative methods are available. Please check with a customer service representative for more details.

4.2.1 Metals by NIOSH Methods

Analyte	Reference Method
Arsenic (As)	Modified NIOSH 7901
Beryllium (Be)	Modified NIOSH 7102 or 7300
Cadmium (Cd)	Modified NIOSH 7048
Chromium (Cr)	Modified NIOSH 7024

Copper (Cu)	Modified NIOSH 7029
Lead (Pb)	Modified NIOSH 7082
Nickel (Ni)	Modified NIOSH 173
Zinc (Zn)	Modified NIOSH 7030
Metals by ICP	Modified NIOSH 7300

4.2.2 Solvents by NIOSH Methods

Solvents	Reference Methods
Naphthalene	NIOSH 1501
Styrene	NIOSH 1501
Toluene	NIOSH 1501
1,1,1-Trichloroethane	NIOSH 1003
Trichloroethylene	NIOSH 1003
Trichloro-Trifluoroethene	NIOSH 1003
Trichlorofluoromethane	NIOSH 1003
1,2,4-Trimethylbenzene	NIOSH 1501
VMP Naptha	NIOSH 1550
2-Butanol	NIOSH 14
N-Butanol	NIOSH 1401
Butyl Acetate	NIOSH 1450
1,3-Dichlorobenzene	NIOSH 1003
1,1-Dichloroethane	NIOSH 1003
1,1-Dichloroethylene	NIOSH 1003
p-Dioxane	NIOSH 1602
Ethanol	NIOSH 1400
MTBE	NIOSH 1500
Nonane	NIOSH 1500
Octane	NIOSH 1500
Pentane	NIOSH 1500
Methylene Chloride	NIOSH 1003
Chlorobenzene	NIOSH 1003
Xylenes	NIOSH 1501
2-Butanone	NIOSH 2500
2-Butoxyethanol	NIOSH 1403
Benzene	NIOSH 1500
Carbon Tetrachloride	NIOSH 1003
Chloroform	NIOSH 1003
Ethyl Acetate	NIOSH 1457
Isopropanol	NIOSH 1400
Methanol	NIOSH 2000
1,2-Dichloroethylene	NIOSH 1003

4.2.3 Volatile Organic Compounds by EPA Methods TO-1/TO-2

Con-Test offers a modified EPA TO-1/TO-2 method that enhances the original TO-1 method by expanded compound list and added quality control.

Summary of Protocol: Ambient air is drawn through a cartridge containing multi-media carbon (Carbopak C, Carbopak B, CarboSieve). Certain volatile organic compounds are trapped on the resin while highly volatile organic compounds and most inorganic atmospheric constituents pass through the cartridge. The cartridge is then transferred to the laboratory and analyzed.

For analysis, the cartridge is placed in a heated chamber and purged with an inert gas. The inert gas transfers the volatile organic compounds from the cartridge onto a cold trap and subsequently on to the front of the GC column which is held at low temperature. The GC column temperature is then increased and the components eluting from the column are identified and quantified by mass spectrometry. Component identification is normally accomplished, using a library search routine, on the basis of the GC retention time and mass spectral characteristics.

The following compounds are standard in this TO-1/TO-2 scan. An expanded compound list is available and found in Appendix C. Technical service is available to determine the appropriate method for specific applications.

Acetone
Acrylonitrile
Allyl Chloride
Benzene
Bromobenzene
Carbon Tetrachloride
Chloroform
1,2-Dibromoethane
1,2-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloropropane
1,3-Dichloropropane
Ethyl Benzene
Heptane
1-Heptane
Isopropylbenzene
Methylene Chloride
Tetrachloroethylene
Vinyl Chloride
m/p-Xylene
o-Xylene

4.2.4 Volatile Organic Compounds by EPA Method TO-14A/TO-15

Con-Test offers the TO-14A and TO-15 methods for volatile organic compounds.

Summary of Protocol: A sample of ambient air is drawn through a sampling train comprised of components that regulate the rate and duration of sampling on to a pre-evacuated specially prepared passivated canister (Summa, Restek). After the air sample is collected, the canister valve is closed, an identification tag is attached to the canister, a chain-of-custody form completed and the canister is transported to the laboratory for analysis.

Upon receipt at the laboratory, the canister tag data is recorded, the COC completed and the canister is attached to the analytical system. During analysis, water vapor is reduced in the gas stream and the VOCs are then concentrated by collection in a cryogenically cooled trap. The cryogen is then removed and the temperature of the trap is raised. The VOCs originally collected in the trap are revolatized, separated on a GC column, then detected by one or more detectors for identification and quantitation.

The following compounds are included in the TO-14A/TO-15 scan.

propene
Dichlorodifluoromethane (Freon 12)
chloromethane
freon 114
vinyl chloride
1,3-butadiene
bromomethane
chloroethane
acetone
trichlorofluoromethane
ethanol
1,1-dichloroethene
methylene chloride
freon 113
carbon disulfide
trans-1,2-dichloroethene
1,1-dichloroethane
mtbe
ipa
2-butanone
ciis-1,2-dichloroethane
vinyl acetate
hexane
ethyl acetate
chloroform
tetrahydrofuran
1,2-dichloroethane
1,1,1-trichloroethane
benzene
carbon tetrachloride
cyclohexane

1,2-dichloropropane
bromodichloromethane
trichloroethene
heptane
mibk
1,3-dichloropropene (cis)
1,3-dichloropropene (trans)
1,1,2-trichloroethane
toluene
2-hexanone
dibromochloromethane
1,2-dibromoethane
tetrachloroethene
chlorobenzene
ethylbenzene
m/p xylene
bromoform
styrene
o-xylene
1,1,2,2-tetrachloroethane
4-ethyltoluene
1,3,5-trimethylbenzene
1,2,4-trimethylbenzene
1,3-dichlorobenzene
benzyl chloride
1,4-dichlorobenzene
1,2-dichlorobenzene
1,2,4-trichlorobenzene
hexachlorobutadiene

4.2.5 Other Air Analytes – <u>CALL FOR COMPOUND LISTS + DL's/RL's</u>

Formaldehyde	NIOSH 3500
Dust (Total)	NIOSH 0500
(Respirable)	NIOSH 0600
Chlorodane	OSHA 67
Chromium, Hexavalent	NIOSH 7600
Naphthas	NIOSH 1550
PCB	NIOSH 5503
PCB (High + Low Volume)	EPA TO-4, TO-10
PAH's (semi-volatiles) - High + Low Volume	EPA TO-13/TO-13A

4.3 Method Detection Limits

Method Detection Limits are given in *Attachment "C"*. The MDLs shown are a list of commonly utilized detection limits. Specific method detection limits can be achieved when requested. Additional samples may be required and a modified method may be employed.

5.0 QUALITY CONTROL AND REPORTING

5.1 Scope of Program

Quality Assurance/Quality Control in the Environmental/Industrial Hygiene Laboratory incorporates specific actions performed on a daily basis in order to verify that sample integrity and quality of analyses are maintained to designated standards. The fundamental principals of the QA/QC program are inherent in each separate operation performed in the laboratory (for example, login procedures, sample tracking, contamination control, etc.). In addition, laboratory personnel strictly adhere to those procedures specifically designed to assure that quality results are obtained during each sample analysis.

5.1.1 Quality Control

Quality control consists of specific procedures or measures adapted to specific operating conditions. These procedures, which apply to every phase of business done at Con-Test Analytical Laboratory, provide a quality structure upon which each procedure is constructed. The purpose is to insure quality of data and service to our clients.

5.1.2 Quality Assessment

Quality assessment involved the continuous evaluation of data and monitoring of analytical processes to insure that quality control procedures are performing correctly.

5.1.3 Major Elements of the Quality Assurance Program

- The use of appropriate methodologies by technically competent, well-trained personnel, using state of the art instrumentation and equipment.
- Adherence to well-defined standard operating procedures, with emphasis on sound laboratory techniques.
- Monitoring of analytical methods to insure that data user's needs for precision, accuracy, and sensitivity are met. Assessment of data by use of quality control samples including (but not limited to): blanks,

independent laboratory control samples, duplicate samples, matrix spike samples, and surrogate spike samples.

- Internal and external system and performance audits to monitor compliance with procedures and assess performance of analytical methods.

It should be noted that although QA/QC criteria can be adjusted to meet specific client needs, the minimum controls will always be performed. More detailed information regarding the Con-Test Environmental/ Industrial Hygiene Laboratory QA/QC program is available in the Con-Test Laboratory *Quality Control Manual.*

5.2 Sample Preparation QA/QC

All samples submitted to the laboratory, whether for organic or inorganic analysis, must first be subjected to sample preparation before actual analysis may be performed. Specific procedures are performed to insure that samples do not become contaminated during this preparation process.

A Method Blank (MB) or a Reagent Blank is prepared with the samples to be analyzed. This blank, which is treated in every respect like the actual samples to be analyzed, must be below the instrument detection limit at the time of analysis. If this is not the case, the analysis is "flagged" and must be re-performed, beginning with the preparation procedure. For AIHA air samples, a MB is analyzed at a frequency of one per ten samples (10 percent). For EPA environmental samples, a MB is analyzed at a frequency of one per twenty samples (5) percent. However, regardless of the number of samples to be analyzed, a new blank(s) is analyzed daily, including a MB for each different matrix.

Specific procedures are also employed to insure the proper recovery of the designated analyte from the matrix that is being prepared. A Laboratory Control Spike (LCS) consists of distilled water spike with a known amount of the analyte to be analyzed. The LCS is subjected to the same preparation procedure as all other samples, at a frequency of ten percent for AIHA samples and five percent for EPA or environmental samples. The LCS must fall within acceptable limits in order for the preparation procedure to be regarded as validated.

Another procedure to insure proper recovery of an analyte or analytes in a sample is to prepare a Matrix Spike (MS). The MS is an actual sample which has been spiked with a known quantity of the analyte(s) to be tested, and is also subjected to the entire preparation procedure. A MS is prepared and analyzed for each different matrix, at a frequency of ten percent for AIHA samples and five percent for EPA or environmental samples. The MS must fall within acceptable limits in order to validate that the analyte(s) in a particular matrix have been fully recovered, and that no interferences are present.

A test for precision, termed duplicate analysis, is also performed for samples which can be split. This procedure consists of preparing a duplicate sample with other samples. The duplicate sample must fall within an acceptable designated percentage difference with respect to the original sample in order to validate that sample preparation was precise.

It should be noted that although QA/QC criteria can be adjusted to meet specific client needs, the minimum controls will always be performed.

All QA/QC criteria are closely monitored, both manually and by computer, in order to insure the best possible analytical results. If any of the quality procedures for sample preparation noted above are not acceptable (i.e., Method Blank, Matrix Spike, Laboratory Control Spike, or Duplicate) and there is no apparent explanation as to cause, both sample preparation and analysis will be deemed invalid and be re-performed.

5.3 Sample Analysis QA/QC

5.3.1 NIOSH Methods

Before analysis begins, instruments are calibrated. Initial calibration for all laboratory instruments is performed with a blank and a minimum of four calibration standards covering the optimum range of the particular instrument. After instrument calibration has been established and accepted, a broad range of quality control checks are performed to insure the optimum operation and accuracy of the instrument during analysis. The checks described below are performed on each instrument, regardless of whether it is used for organic or inorganic analysis, unless otherwise noted.

After calibration has been accepted, an Initial Calibration Verification (ICV) must be performed. The ICV is a source independent of the calibration standards and at a mid-range concentration within the calibration curve. If the result of this quality control check does not fall within plus or minus five percent of its true value, calibration cannot be verified, and recalibration or new standards may be necessary.

After the ICV has been accepted, an Initial Calibration Blank (ICB) must be run. The ICB is blank water used to create calibration standards. If the result of this blank does not fall below the instrument detection limit, recalibration or new standards may be necessary.

After the ICB has been accepted, an Interference Control Sample (ICS) is run for samples to be analyzed on the Inductively Coupled Plasma Atomic Emission Spectrometer (ICP_AES). This quality control check is also based on a source independent of the calibration standards.

When all of these quality control checks have been performed and accepted, samples are analyzed, together with the sample preparation procedures performed

during sample analysis. Calibration must be continually monitored to insure that no drift has occurred in the instrument. A Continuing Calibration Verification (CCV) is analyzed after each ten samples to insure that this does not occur. The CCV is created from the same stock as the ICV, and must fall within plus or minus five percent of its true value to be deemed acceptable.

In addition to monitoring of calibration, the analytical instrument must also be monitored to guard against sample carry-over or line contamination. These are monitored by running a Continuing Calibration Blank (CCB) every ten samples, directly following the CCV. The CCB must fall below the instrument detection limit each time it is performed.

It should be noted that the acceptance criteria for instrument quality control checks will vary depending upon which analytical methodology and instrument are being used for analysis.

5.3.2 EPA Methods

Before analysis begins, instruments are calibrated. Instruments are calibrated as indicated by methods. The initial calibration curve consists of five standards defining the dynamic range for that particular analysis. When initial calibration criteria is met, method blanks and samples are analyzed. In organic analysis, standards, blanks and samples are monitored with a surrogate compound. Continuing calibrations are performed prior to sample analysis if the initial calibration curve is not performed. The continuing calibration must meet method requirements prior to running samples. If not, a new initial calibration curve is analyzed.

In addition to monitoring of calibration, the analytical instrument must also be monitored to guard against sample carry-over or line contamination. For EPA Methods TO-14 and TO-15, the Entech Autosampler systems are leak checked and cleaned by purging with helium after attaching summa canisters, but prior to opening them to removal any contamination in the lines. A Method Blank (MB) of zero grade air is analyzed prior to samples to verify a contamination free analytical system. If any contamination is detected, it must be below the instrument detection limit before analysis of samples. A method blank is analyzed at a frequency of one per twenty samples (5 percent). A new blank is analyzed daily regardless of sample number.

Specific procedures are employed to ensure the proper recovery of the designated analyte from the air. An independent quality control standard is prepared and analyzed with all analytical batches.

5.4 Quality Control Reports

All percent recovery values and relevant percentage differences in values are plotted on Quality Control Charts, which are continuously monitored for inconsistencies in order to assist in identifying any QA/QC problems at the earliest

possible stage. These charts record data pertaining to each individual analyte in each individual matrix for percentage of recovery.

A Quality Control Chart is deemed complete when twenty or more points have been plotted. The laboratory uses the limits generated by the Quality Control Charts as its acceptable criteria for the Quality Control Samples that were prepared with the actual samples to be analyzed. Results of batch and sample specific QC parameters including blanks, LCS matrix spike recoveries and duplicates are provided with each analytical report in the supplementary QC Summary Report.

For EPA Methods TO-1, TO-2, TO-14, TO-15, TO-4, TO-10, TO-13/TO-13A and TO-17, all percent recovery values of the independent quality control standard and surrogate percent recovery are reported to the client. Quality control charts are produced when twenty or more data points are generated. The results are used to determine acceptable percent recoveries for sample analysis.

5.5 Proficiency Testing

The Environmental/Industrial Hygiene Laboratory participates in a variety of programs in order to maintain its certification as well as to continuously monitor practices and procedures. The certification programs in which the laboratory participates include the New York State Department of Health Potable and Non-Potable Water Testing Program, the DMR QA Studies, Proficiency Analytical Testing Program (PAT) and Solid Waste and Paint Sample Testing program. In addition, the laboratory is periodically inspected by American Industrial Hygiene Association on-site inspectors, various state on-site inspectors and client auditors.

The laboratory also participates in the Environmental Lead Laboratory Proficiency Analytical Testing (ELLPAT) program. Finally, in-house proficiency testing is occasionally performed to insure that proper practices and techniques are being employed.

6.0 SAMPLE RECEIPT AND TURNAROUND POLICY

6.1 Turnaround Times

Standard turnaround is five to ten (5-10) business days from time of receipt in the laboratory. Samples received after 4:00 p.m. are considered as received 9:00 a.m. the following business day.

The following rush turnaround times are available as needed with an additional charge. Please call the laboratory prior to the submission of rush samples for the availability of rush analysis.

- 3-day turnaround
- 48-hour turnaround
- 24-hour turnaround
- Same-day turnaround

Standard laboratory hours are Monday – Friday, 8:00 a.m. to 5:00 p.m. In addition, the laboratory runs a limited second shift, five days a week and Saturdays. Analysis requiring hours beyond the standard or weekend hours can be arranged. Please call the laboratory for further details.

6.2 Courier Service

The laboratory has full-time courier service to facilitate sample return to the laboratory. Prearranged courier service or shipping is available at no charge.

7.0 CLEANING AND DISPOSAL

Air analysis generates little waste. Both thermal desorption methods and summa canister methods require no disposal of the sample.

Thermal desorption tubes are reconditioned after analysis
, after which the tubes are analyzed to verify being contamination free. If contamination is found, the tubes will be reconditioned again.

Summa canisters are vented into a hood, then placed in a canister cleaner. The canister cleaner will heat each canister to 100 degrees C and vacuum it out to 50 millitorr. It will then flush the can with zero grade air and again vacuum it to 50 millitorr. This cycle occurs three times. The canisters are then batch tested for contamination. If contamination is found, a second cleaning process will occur.

Samples are held a minimum of 14 days after being received.

8.0 SAFETY POLICY

8.1 Chemical Hygiene Plan

All employees are trained at their employment initiation and continuously throughout under the specifications of the Chemical Hygiene Plan. The Chemical Hygiene Plan is a written program developed to set forth procedures, equipment, personal protective equipment and work practices that protect employees from health hazards associated with a laboratory workplace. It describes procedures for training employees about health hazards in the workplace and procedures for providing medical consultations and examinations when necessary. The plan is developed in accordance with the OSHA (Occupational Safety and Health Administration) Standard for Hazardous Chemicals in Laboratories (29 CFR 1910). This regulation is a guideline for handling hazardous chemicals safely in labs. It also outlines procedures to be followed in the event of an accident or emergency. The Chemical Hygiene Plan is reviewed annually and revised if necessary.

9.0 PROFESSIONAL AFFILIATIONS

Con-Test Analytical Laboratory and our professional staff hold memberships in the following professional and environmental organizations:

- American Industrial Hygiene Association
- American Board of Industrial Hygiene
- Independent Laboratory Testing Association
- Connecticut Water Pollution Abatement Association
- LSPA (Licensed Site Professional Association)
- EBC (Environmental Business Council)
- EPOC (Environmental Professionals of Connecticut)
- The Commonwealth Institute (Woman-Led Business Organization in Massachusetts)

10.0 INSURANCE COVERAGE SUMMARY

General Comprehensive Liability

Each Occurrence- $2,000,.000
Personal & Adv. Injury- $2,000,000
General Aggregate- $2,000.000
Products-- $2,000,000

Professional Errors and Omissions

Limit of Liability - $1,000,000

Automobile Liability (Combined Single Limit)

- Bodily Injury (per person) - $1,000,000
- Bodily Injury (per accident) - $1,000,000
- Property Damage - $100,000

Workers' Compensation and Employer's Liability

- Each Accident - $500,000
- Disease – Policy Limit - $500,000
- Disease – Each Employee - $500,000

Additional Coverage

Errors and omissions coverage exceeding the above limits may be available for particular projects upon request.

Con-Test Analytical Lab will, upon request, furnish Certificates of Insurance as evidence of coverage for the types of insurance and limits indicated above.

11.0 REPRESENTATIVE CLIENTS

A list of representative clients who have utilized Con-Test analytical services is found in *Attachment "D"*.

ATTACHMENT "A" – RESUMES OF KEY PERSONNEL

ATTACHMENT "B" – LABORATORY CERTIFICATIONS/ACCREDITATIONS

ATTACHMENT "C" – METHOD DETECTION LIMITS

ATTACHMENT "D" – REPRESENTATIVE CLIENT LISTING

REPRESENTATIVE CLIENTS
AIR ANALYSIS LABORATORY

Analytics, Inc.
Arthur D. Little Inc.
ATC Associates, Inc.
Brookfield Engineering Lab
Connecticut Department of Transportation
Ducharme & Wheeler, Inc.
Enviro-Safe Consultants
EPA- Illinois
Fuss & O'Neill, Inc.
Galson Corporation
Hygeia Proscience
MACTEC
Metcalf & Eddy
Milton Bradley Company
Missisquoi Valley Union High School
Northeast Test Consultants
Occu-Safe
Pennoni Associates
Relco Engineering
Safe Environment of America, Inc.

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