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FINAL PROJECT CLOSEOUT REPORT LEAD-BASED PAINT ABATEMENT AND
REFINISHING OFFICE SINGLE FAMILY HOUSING QUARTERS J AND B BOOK 2 CNC
CHARLESTON SC
2/1/2000
CAPE ENVIRONMENTAL MANAGEMENT, INC.

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C

Final Project Closeout Report
Lead-based Paint Abatement (LBPA) and Refinishing
Officer Single Family Housing, Quarters J & B
Charleston Naval Shipyard Complex
Charleston, SC

Contract # N62467-99-D-1035
Work Order No.: 0007
CAPE Project # 90033.103.000

Prepared for:
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive, P.O. Box 190010
North Charleston, SC 29419-9010

Prepared by:
Cape Environmental Management Inc
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BOOK 2

Contacts:
Herman Kitt, Vice-President
Michael D. Mount, CIH

FEBRUARY 2000

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EXECUTIVE SUMMARY

Cape Environmental Management Inc (CAPE) was retained by Southern Division of the Naval Facilities Engineering Command (SouthDiv NAVFACENGCOM) to furnish all labor, supervision, materials where required, equipment and special services necessary to complete the removal, packaging and disposal of lead-based paint (LBP) as well as corresponding repair, encapsulation, and refinishing of designated surfaces and components located in Units J and B, Charleston Naval Shipyard Complex. The objective of this project is to eliminate deteriorated, friction, impact and accessible (chewable) lead based paint surfaces in the referenced housing units.

These services encompasses all coordination, documentation, air monitoring, environmental testing and disposal of general construction waste necessary to complete the abatement of lead-based paint from designated surfaces and components as outlined in the interior treatment work list. CAPE also remove exterior deteriorated paint and provide the corresponding surface preparation and refinishing. This final project report documents, lead abatement services and refinishing was completed between the dates of October 18, 1999 and January 10, 2000.

Client Activity:	Charleston Naval Shipyard Complex Officer Single Family Housing – Units J & B
Navy Consultant (NC):	Cape Environmental Management Inc
Project Manager:	Herman Kitt
Certified Industrial Hygienist (CIH)	Michael D. Mount, CIH
On-site Industrial Hygienist:	Robert Beasley Jr., Asbestos Environmental Consultants
Contractor:	Cape Environmental Management Inc
Contractor's Project Manager:	Jeffrey P. Shannon
On-Site Project Manager:	Howard Frost

Scope of Work

The scope of work for this project included the lead based paint abatement and refinishing of the following surface areas and components from the buildings indicated: Units J and B

Interior Treatment:

Surface Area/Components	Treatment Method
Walls	Remove any flaking or peeling LBP. Surface preparation shall include Removing flaking or peeling and encapsulate 5 feet up from the floor (impact surface).
Baseboards	Perform surface preparation and paint only as required. Surface preparation shall include removing flaking or peeling LBP and encapsulate (impact surfaces).
Windows	Plane sash edges, remove LBP only on chewable or chewable window surfaces. Replacing in kind an entire window that is too deteriorated to repair if the overall form and detailing are still evident using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.
Doors	Plane door edge and remove LBP 2 inches around edge on front and back. Feather and repaint, this eliminates chewable, friction and impact surfaces.
Bathroom Vanity	Strip LBP 2 inches from edge of vanity and encapsulate.
Ceiling	Remove any flaking or peeling LBP and repaint with regular paint

Exterior Treatment

Surface Area/Components	Treatment Method
Eaves	Remove any flaking or peeling LBP and paint only as necessary eaves with regular paint.
Windows/Doors	Same as noted for the interior.

Garage exterior	Perform surface preparation and paint only as necessary exterior with regular paint.
Screen Porches	Remove any flaking or peeling LBP and repaint with regular paint.
Exterior screen door	Remove or replace unless door has historic features.

1.0 Gross Removal

The work area enclosures consisted of a three-stage decontamination unit (de-con), polyethylene barriers, and two negative air units. All vents and penetrations were sealed with polyethylene and duct tape. "Danger Lead" signs were posted outside the work area as required by OSHA.

Negative pressure of 0.02 inches of water was maintained before, during, and after removal. The critical barriers remained in place and work area was kept under negative pressure until the "Release Criteria" was met by the Contractor.

As part of the gross removal all lead contaminated materials removed were disposed of in 6 mil plastic waste bags and reinforced by placing a second polyethylene bag over the initial bag (double bagging).

2.0 Cleaning and Visual Evaluation

Final cleaning of the area was conducted using a water solution of LEDISOLV. All surfaces were wiped until visible dust, dirt, and debris was removed. The cleaning rags and waste water generated during cleaning process were segregated and sampled for TCLP analysis. The final visual evaluation of the work areas was performed by both the On-site Contractor's Project Supervisor and (third party) on-site Industrial Hygienist. The Contractor's crew re-cleaned designated areas where any visible residue was noted during previous inspections.

Final clearance testing was conducted after final cleaning inspection with full containment remaining in place. The final clearance samples consisted of area air samples and surface wipe samples. The results of the clearance air samples indicated lead concentrations below the final clearance air concentration of 30 ug/m³ and the wipe samples resulted in less than the clearance criteria of 100 ug/ft² feet of surface area.

Aggressive air sampling techniques were achieved by employing a 1.5 power leaf blower to entrain settled dust from the work area surfaces.

The work area was released to the Owner upon a successful visual evaluation of work area and air sampling and dust wipe sampling results indicated lead concentrations below allowable limits. The "Release" criteria was met by the Contractor on January 10, 2000 .

3.0 Worker Protection

Powered Air Purifying Respirator (PAPR) and half-face respirators equipped with HEPA filters and full body disposable coveralls were utilized by all workers while inside the work areas. CAPE conducted personal air sampling to document worker exposure during each phase of work. All personal sample collected during the project indicated a lead concentration equal or below 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in all phases of the work area.

4.0 Summary of Analytical Results

A total of 36 air samples, 3 water samples, 21 dust wipe samples, 8 composite soil samples and 4 TCLP samples were collected during this project. All samples were analyzed in accordance with NIOSH Method 7082 and EPA protocols and are presented in Section 3 of this report. Air sample analysis results with their corresponding chain of custody are presented in Section 3, Appendix A of this report. Water sample analysis are presented in Section 3, Appendix B. Dust wipe and soil sample analysis are presented in Section 3, Appendix C. TCLP sample analysis are presented in Section 3, Appendix D. Daily log reports are presented in Section 3, Appendix E.

5.0 Closure

Cape has successfully eliminated all deteriorated, friction, impact and accessible (chewable) lead-based paint surfaces in Units J and B located at Charleston Naval Shipyard Complex, Charleston, South Carolina. All lead contaminated waste water generated during the abatement were removed from the work areas upon receipt of passing TCLP results and were disposed of non-hazardous waste. TCLP results from solid waste generated which consists of disposable suits, rags, polyethene sheets and paint chips debris were above the clearance criteria of 5 ppm and therefore, were subsequently disposed of as hazardous waste. A total of 68 drums were disposed of as hazardous waste. Copies of waste manifest are presented in Section 4 of this report. Repainting and other necessary refinishing was performed by PC Painting of Mt. Pleasant South, Carolina.

**TECHNICAL SPECIFICATION
FOR
LEAD-BASED PAINT ABATEMENT AND DISPOSAL
CHARLESTON NAVAL SHIPYARD COMPLEX OFFICER SINGLE
FAMILY HOUSING**

1.0 GENERAL

1.1 SCOPE

The work covered by this specification includes furnishing all labor, equipment, materials, tools, services, testing, supervision, transportation, and incidentals necessary to perform the work of Lead-based Paint Abatement (LBPA) in Officer Single Family Housing, Charleston Naval Shipyard Complex. Paint preparation includes removal of deteriorated, loose and flaking paint and debris by wet scraping only/ cleaning etc. per HUD Guidelines, OSHA Lead in Construction Standard 29 CFR-1926-62, The Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings and NAVFAC MO-913 Historic Structures Preservation Manual, dated September 1991; perform minor repairs as necessary to ensure compliance with manufacturer's specifications for surface preparation to accept 20-year paint. Painting includes 20 year paint unless indicated as "regular" paint.

After all abatement work is complete the entire area will be cleaned in accordance with HUD guidelines to ensure the elimination of any lead based paint (LBP) dust hazards.

Clearance testing (wipe samples) for LBP dust will also be performed after abatement is complete.

Abatement shall be conducted only on components that have been indicated to have LBP in the survey conducted by Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Environmental Detachment, Charleston (SPORTENVDETCNASN) for the Single Family Officer Housing and the PWC NORFOLK reports. Soil Abatement shall be based on the sampling results from the Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Environmental Detachment, Charleston (SPORTENVDETCNASN) and PWC NORFOLK reports.

Not all work defined herein is not necessarily required.

Important Definitions:

Deteriorated paint- any interior or exterior paint that is peeling, chipping, chalking, or cracking, or is located on an interior or exterior surface or fixture that is damaged or deteriorated.

Impact Surface- an interior or exterior surface that is subject to damage from repeated impacts (e.g., certain parts of door frames).

Friction Surface- an interior or exterior surface that is subject to abrasion or friction (e.g., certain window, floor, and stair surfaces).

Accessible Surface- surface that ~~mouth~~ **mouth**ing or chewing by children if it protrudes from the surrounding area to the extent that a child can chew the surface and is within 3 feet of the floor or ground (e.g., window sills, railing, and edges of stair treads).

Officer Housing

Exterior Treatment:

- Eaves: Remove any flaking or peeling LBP and paint only as necessary eaves with regular paint.
- Windows/doors: Same as noted for the interior.
- Garage exterior: Perform surface preparation and paint only as necessary exterior with regular paint.
- Screen Porches : Remove flaking or peeling LBP paint and repaint with regular paint.
- Exterior Screen Doors: Remove and replace unless door has historic features.

Interior Treatment:

- Walls : Remove any flaking or peeling LBP. Surface preparation shall include removing flaking or peeling LBP and encapsulate 5 feet up from floor (impact surface).
- Baseboards: Perform surface preparation and paint only as required. Surface preparation shall include removing flaking or peeling LBP and encapsulate (impact surface).
- Windows: Plane sash edges, remove LBP only on chewable or chewable window surfaces. Replacing in kind an entire window that is too deteriorated to repair if the overall form and detailing are still evident using the physical evidence to guide the new work . It using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.
- Doors: Plane door edge and remove LBP 2 inches around edge on front and back. Feather and repaint This eliminates chewable, friction and impact surfaces.
- Bathroom vanity: Strip LBP 2 inches from edge of vanity and encapsulate.
- Ceiling: Remove any flaking or peeling LBP and repaint with regular paint.

For this specification, LBPA is defined as stated in 1991 Consumer Product Safety Act and as

addressed in 16 CFR 1303, "Ban of Lead-Containing Paint and Certain Consumer Products Bearing, Lead-Containing Paint.

Abatement, storage, transportation, and disposal work shall be performed without damaging or contaminating adjacent work or areas. Where such work or areas are damaged or contaminated, The SPORTENVDETHASN shall restore work or areas to the original condition.

1.2 QUALITY CODES AND STANDARDS

The following publications form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARDS

Z88.2 Practice for Respiratory Protection

TITLE 29, CODE OF FEDERAL REGULATIONS (CFR), U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS

Part 1910 Occupational Safety and Health Standards

Part 1926 Safety and Health Regulations for Construction

OSHA Booklet 3126 Working with Lead in the Construction Industry

TITLE 40, CODE OF FEDERAL REGULATIONS (CFR), U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) STANDARDS

Part 50 Ambient Air Standards

Part 260 Hazardous Waste Management System: General

Part 261 Identification and Listing of Hazardous Waste

Part 262 Standards Applicable to Generators of Hazardous Waste

Part 263 Standards Applicable to Transporters of Hazardous Waste

Part 264 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

Part 265 Interim Status Standards for Owners and Operators of Hazardous Waste treatment, Storage, and Disposal Facilities

Part 268 Land Disposal Restrictions

Part 370 Hazardous Chemical Reporting: Community Right-to-know

TITLE 49, CODE OF FEDERAL REGULATIONS (CFR), U.S. DEPARTMENT OF TRANSPORTATION (DOT) STANDARDS

- Part 172 Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements
- Part 173 Shippers - General Requirements Subpart M for Shipments and Packaging
- Part 178 Specifications for Packaging

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD ACCN-5646 (1990; Rev May 1991) Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing

THE SECRETARY OF THE INTERIOR

Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Revised 1983)

DEPARTMENT OF THE NAVY

NAVFAC MO-913, Historic Structures Preservation Manual
September 1991

CHARLESTON NAVAL SHIPYARD

Facility Layaway Standards

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- NFPA 701 Methods of Fire Test for Flame-Resistant Textiles and Films
- NFPA 70 National Electrical Code

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Booklet 3142 Lead in Construction

STEEL STRUCTURES PAINTING COUNCIL (SSPC)

- SSPC 93-02 Industrial Lead Paint Removal Handbook, Kenneth A. Timber, Second edition, June 1993

UNDERWRITERS LABORATORIES (UL)

UL 586 High-Efficiency, Particulate, Air Filter Units

1.3 DEFINITIONS

Air monitoring - the process of measuring the lead content of a specified volume of air in a stated period of time. Personal air sampling results shall be calculated to reflect the employee's 8-hour time weighted average (TWA) exposure.

Encapsulate - A material that surrounds lead-based paint in a matrix to help prevent further deterioration of lead coatings and minimize human exposure to lead.

Hazardous waste - Lead paint debris may be characterized as hazardous, if after testing by the Toxicity Characteristic Leaching Procedures (TCLP), the leachate contains any of the following elements in concentrations equal to or greater than those listed below:

Barium	100 mg/L
Cadmium	1 mg/L
Chromium	5 mg/L
Lead	5 mg/L
Mercury	0.2 mg/L

these elements can cause a material to be hazardous as defined in 40 CFR 261. The above list only includes those elements associated with paints.

Lead containing paint - a paint containing 0.5% by weight lead or greater.

Personal monitoring - sampling of the airborne lead concentrations within the breathing zone of an employee.

Visible emissions - any emissions containing particulate lead material that are visually detectable without the aid of instruments.

Supervisor of Shipbuilding, Conversion and Repair , Portsmouth, Environmental Detachment, Charleston (SPORTENVDETCNASN)

1.4 SUBMITTALS

No submittals will be submitted to SOUTHDIIV except LBPA Management Plan. The SPORTENVDETCNASN shall have trained personnel in National Historic Preservation Act Section 106 in the review process to the point that they know that there is a relatively tightly structured process through which they must work to establish a relationship with the S. C. SHPO.

Analytical support

The SPORTENVDETHASN shall identify the analytical support laboratory for environmental and industrial hygiene samples analysis. All appropriate certifications from the laboratory shall be kept on record by the SPORTENVDETHASN.

Qualifications of personnel

Resumes shall be provided on all key personnel to work on the project. This shall include the project manager, project superintendent (Competent Person), foreman, safety and health representative, CIH, (Certified Industrial Hygienist) or any other environmental or industrial hygiene technicians. Training experience is required for each person assigned to the project who will be performing work at the job site.

1.4.2 Submittals Required After Award

The following submittals shall be provided for approval:

Lead-Based Paint Abatement (LBPA) Management Plan

The SPORTENVDETHASN shall visit and investigate the site, review drawings and specifications, assess the amount of lead-based paint, and become familiar with conditions that will affect the work tasks and abatement methods and shall prepare a detailed LBPA Management Plan that identifies the work procedures and safety and health measures to be used in LBPA. The plan shall be submitted to SOUTHDIV for review by the State Historic Preservation Office (SHPO). The plan shall have the approval of the CIH and shall address the various sources of lead and the methods to be undertaken to abate the lead hazards to include the following key elements:

- Abatement methods for each surface type, including provisions for the preservation of historical buildings and components.
- Training requirements as required by Federal, state, and local regulations and standards.
- Unique problems associated with the LBPA project.
- Personnel protective equipment; respiratory protection program and controls.
- Worker exposure assessment procedures, including exposure monitoring, Work Practice controls.
- Special requirements for work in historic structures.
- Sampling, testing, and analytical methods to include personal air sampling requirements of 29 CFR Part 1926 Section 62 and when specified or where required; environmental air sampling, in accordance with 40 CFR Part 50; dust wipe sampling, and toxicity

characteristic leaching procedure (TCLP) of the waste material in accordance with 40 CFR Part 261. Procedures shall include frequency, locations, and sampling and analytical methods to be used. In addition to those items noted above, the LBPA Management Plan shall also address the specific requirements of each of the following areas. Each of the plans described below shall be a section of the overall LBPA Management Plan.

Two copies of the LBPA Management Plan shall be submitted for approval to the Charleston Naval Shipyard Complex Preservation Officer.

PLANNING MEETING WITH THE FOLLOWING PARTIES BEFORE ANY WORK IS STARTED:

- Representative of SHPO Office
- Representative of RDA
- CSO Office
- Representative of SPORTENVDETCHASN
- Representative of SOUTHDIV

Hazardous Waste Management

A Hazardous Waste Management Plan shall be prepared that complies with applicable requirements of Federal, state, and local hazardous waste regulations and addresses:

- Identification or documentation of potential hazardous wastes associated with the work.
- Estimated quantities of wastes to be generated and disposed of.
- Names and qualifications of each Subcontractor that will be transporting, storing, and disposing of the wastes; the facility location, and phone number shall be included. A copy of EPA, state, and local hazardous waste permits and EPA identification numbers.
- Names and qualifications (experience and training) of personnel who will be working, on site with hazardous waste.
- List of waste handling equipment to be used in performing the work to include cleaning, volume reduction, and transport equipment.
- List of materials, including Material Safety Data Sheets for supplies that may contain potentially hazardous or toxic chemical components.
- Spill prevention (plan for protection of the ambient air, soil, and water), containment, and cleanup contingency measures to be implemented.

- Work plan and schedule for waste containment, removal, and disposal.

Site Storage

- A Handling and Site Storage Plan shall be prepared that addresses the handling and storage of LBPA debris in accordance with hazardous waste requirements in 40 CFR Parts 262 and 265. An EPA identification number will be provided to the government so that proper manifesting of the hazardous waste can occur. Site storage limitations, including the time of storage, container requirements, and contingency plan must be described in the plan.

Waste Disposal

A Waste Disposal Plan shall be prepared after inspection of the work site and evaluation of disposal alternatives. The Waste Disposal Plan shall include but not be limited to the following:

- A written confirmation that the debris will be treated and disposed of in accordance with the requirements of 40 CFR Parts 260, 261, 262, 264, and 2681 and state code equivalents.
- A written confirmation that transportation of the debris will be in accordance with 40 CFR Part 263.
- The disposal facility's name, address, telephone number, and landfill location, including copies of licenses permits, and authorizations for disposal of lead paint waste or related items.
- Detailed delivery tickets prepared, signed, and dated by an agent of the disposal facility, certifying the amount of LBPA containing materials delivered to the site within 3 days after delivery.

Emergency Response

Preparation and implementation. The Emergency Response Plan (ERP) shall be prepared to cover on site work by the contractor. The Competent Person shall be responsible for development, implementation, and quality control of the content and actions required in the ERP.

Acceptance and modifications. The ERP shall be prepared, signed, and dated by the SPORTENVDETHASN's Competent Person and submitted 10 days prior to the reconstruction safety conference. Deficiencies in the ERP shall be discussed at the Preconstruction Safety Conference, and the ERP shall be revised to correct the deficiencies and resubmitted for acceptance. On site work shall not begin until the ERP has been accepted, unless otherwise authorized by government. As work proceeds, the ERP shall be adapted to new situations and conditions. Should an unforeseen hazard become evident during performance of the work, the contractor shall bring such hazard to the attention of the government, both verbally and in writing, for resolution as soon as possible.

1.5 QUALITY ASSURANCE

The following sections establish minimum requirements for personnel, analytical support facilities, respiratory protection equipment, and medical record keeping.

1.5.1 Qualifications

Supervisor of Shipbuilding, Conversion and Repair , Portsmouth, Environmental Detachment, Charleston (SPORTENVDETCNASN)

Workers shall comply with the appropriate federal, state, and local regulations which mandate training, requirements and work practices and shall be capable of performing the work.

Certified Industrial Hygienist (CIH)

The CIH may be not be employee of the SPORTENVDETCNASN, but a third party consultant contracted by the SPORTENVDETCNASN, with overall responsibility for the implementation and enforcement of the LBPA Management Plan, including the respiratory protection program. The CIH (American Board of Industrial Hygiene certified in the Comprehensive Practice) shall have a minimum of 2 years specialized experience in the lead paint abatement industry, demonstrable expertise in lead paint air monitoring techniques, and in the establishment of respiratory protection programs. The CIH shall have a working knowledge of applicable state and federal lead paint and occupational safety and health regulations and formal education and training, in occupational safety and health. The CIH is not required to be present at the work site on a full-time basis but shall be on site for a minimum of 8 hours per week. The CIH may delegate to IH(s) the on-going implementation and enforcement of the LBPA Management Plan, including the air monitoring program and final visual inspections of abatement areas.

Industrial Hygienist (IH)

The IH(s) shall be independent IH(s) assigned to the site on a full-time basis for the duration of the project with functional responsibility for implementation and enforcement of the LBPA Removal and Disposal Plan, including the air monitoring, and final visual inspections. The IH(s) shall have a minimum of one year working experience in the LBPA industry and shall have a sound working knowledge of applicable state and federal occupational safety and health regulations and formal training in occupational safety and health. The IH(s) shall also have demonstrable experience in lead paint air monitoring techniques and respiratory protection program implementations. The IH(s) shall be accepted by and work under the supervision of the CIH to implement and enforce the LBPA Management Plan.

Testing Laboratory

The name, address, and telephone number of the independent testing laboratory selected to perform analysis for air samples, lead dust wipes, and TCLP analysis shall be supplied. Documentation that the laboratory performing the analysis is in an EPA National Lead Laboratory Accreditation Program (NLLAP) and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT) shall be supplied. Certification shall include accreditation for heavy metal analysis, list of experience relevant to analysis of lead in air, and a Quality Assurance and Quality Control Program. Currently, the American Association for Laboratory Accreditation (ASLA) and the American Industrial Hygiene Association (AIHA) are the EPA recognized laboratory accreditors. Documentation shall include the date of accreditation or reaccreditation.

Blood Lead Testing Laboratory

The SPORTENVDETHASN shall supply the name, address, and telephone number of the blood lead testing laboratory, the laboratory's listing by OSHA and the U.S. Public Health Service Center for Disease Control (CDC), and documentation that the laboratory is certified in the state where the work site is located.

1.5.2 Respiratory Protection Devices

Manufacturer's certification of NIOSH or the Mine Safety and Health Administration (MSHA) approval for respiratory protection devices utilized on the site is required.

1.5.3 Cartridges, Filters, and Vacuum Systems

Manufacturer's certification of NIOSH approval of respirator cartridges (organic vapor, acid gas, mist, dust, high efficiency particulate) and High Efficiency Particulate Air (HEPA) filtration capabilities for all cartridges, filters, and HEPA vacuum systems shall be submitted.

1.5.4 Medical Records

Certification that employees who are involved in lead paint abatement work have received medical examinations shall consist of a physician's statement and bioassay results for lead in accordance with 29 CFR Part 1910.120. Records shall be retained, at contractor's expense, in accordance with 29 CFR Part 1910, Section 20.

1.5.5 Training

Training certification shall be required for all workers, supervisors, and IH/Competent Person(s) prior to the start of work involving LBPA. Training shall meet the requirements of 29 CFR Part 1926, Sections 62 and 59; 29 CFR Part 1910.120(e); and 49 CFR Part 172, and those required by EPA or the state LBPA course for the work to be performed. Training shall be provided prior to the time of job assignment and at least annually thereafter (if required by regulations). Training

may cover all abatement methods or focus only on those methods specified in the LBPA Management Plan. The project specific training shall, as a minimum, include the following:

- Specific nature of the operation which could result in exposure to lead.
- Purpose, proper selection, fitting, use, and limitations of respirators.
- Relevant engineering controls and good work practices.
- The contents of any compliance P13-n in effect.

1.6 SAFETY AND HEALTH REGULATORY REQUIREMENTS

Work shall be performed in accordance with requirements of applicable regulations including, but not limited to, 29 CFR Part 1910 and Part 1926. Matters of interpretation of the standards shall be submitted to the appropriate agency for resolution before starting work. Where these requirements vary, the most stringent shall apply.

1.7 PRECONSTRUCTION SAFETY AND PRESERVATION MEETING

A preconstruction safety and preservation meeting shall be held prior to starting any work involving LBPA. Attendees to the meeting shall include the contractor's project manager, CH, and Competent Person as well as representatives from the government. Items required to be submitted will be reviewed for completeness, and where specified, for acceptance. The South Carolina Department of Archives and History shall be invited to attend the preconstruction safety and preservation meeting. Invitation shall be received at least fifteen (15) days prior to the schedule meeting date. The State Historic Preservation Office has the option of attending.

1.8 RESPIRATORY PROTECTION PROGRAM

A respiratory protection program shall be established as required by 29 CFR Part 1926 Sections 103 and 62 and in accordance with 29 CFR Part 1910, Section 134. An approved respirator shall be furnished to each employee and visitors required to enter a LBPA work control area. A fit test shall be conducted in accordance with 29 CFR Part 1926, Section 62, Appendix D.

1.9 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the on site person responsible for coordination, safety, security, and execution of The work. The Competent Person shall be able to identify existence, and predictable lead hazards and shall have the authority to take corrective measures to eliminate them. The Competent Person shall be responsible for dust wipe and soil sampling,

1.10 POSTED WARNINGS AND NOTICES

1.10.1 Warning Signs and Notices

The following warning, signs and notices shall be posted at the work site in accordance with 29 CFR Part 1926, Section 62. Warning signs shall be provided at building entrances and approaches to LBPA control areas containing airborne lead-based paint debris. Signs shall be located at a distance from the LBPA control area that will allow personnel to read the sign and take the necessary protective actions required before entering the LBPA control area. Warning signs shall be of sufficient size to be clearly legible and display the following:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS
AREA

Warning labels shall be of sufficient size to be clearly legible and display the following:

CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE
DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED
WASH WATER IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE,
OR LOCAL REGULATIONS.

1.10.2 Hazard Communication and Right-to-Know Notices

Right-to-know notices shall be placed in clearly visible areas of the work site in compliance with federal, state, and local regulations. A Hazard Communication program shall be required that meets the requirements of 29 CFR Part 1910.1200.

1.10.3 Daily Air Monitoring Results air monitoring results shall be prepared so as to be easily understood by the workers and shall be placed in a clearly visible area of the work site.

1.10.4 Emergency Telephone Numbers

A list of telephone numbers shall be posted at the site. The list shall include numbers of the local hospital, emergency squad, police and fire department.

2.0 PRODUCTS

2.1 SAFETY AND HEALTH MATERIALS

Sufficient quantities of health and safety materials required by 29 CFR Part 1926, Section 62, and other materials and equipment needed to complete the project, shall be available and kept on the site.

2.1.1 Respirators

Air-purifying respirators shall be approved by NIOSH for use with dust, fumes, and mists having permissible exposure limits less than 0.05 milligrams per cubic meter [i.e., have high-efficiency particulate air (HEPA) filters] and for other hazardous airborne contaminants that may be encountered, as determined by the Competent Person. Respirators shall comply with the requirements of 29 CFR Part 1926, Section 62, and shall be used in accordance with 29 CFR Part 1926, Section 103, and Part 1910, Section 134.

2.1.2 Respirator Cartridges

A sufficient supply of respirator cartridges shall be maintained at the work site to provide new cartridges to employees, authorized visitors, and Navy personnel throughout the duration of the project. Cartridges shall be replaced according to the manufacturer's recommendations, when breathing becomes difficult, or if the cartridge becomes wet.

2.1.3 Protective Clothing,

The contractor shall furnish equipment/clothing for protection from airborne and waterborne lead-based paint debris. An adequate supply of these items shall be available for worker, authorized visitor, and Navy personnel use. Workers and visitors shall not take protective clothing and equipment off the work site at any time. Protective clothing, includes:

- **Coveralls (Whole Body Protective Coverings):** Full-body coveralls and head covers shall be worn by workers in the work area. Sleeves shall be secured at the wrist and pants legs at the ankle with tape. Permeable clothing shall be provided in heat-stress conditions. Where non-disposable coveralls are provided, these coveralls shall be cleaned after each wearing. Cleaning, of coveralls and other non-disposable clothing shall be in accordance with the provisions for cleaning in 29 CFR Part 1926, Section 62.
- **Boots:** Work boots with nonskid soles or impermeable work boot covers shall be worn by workers. Where required by OSHA, safety boots (steel toe or steel toe and shank) shall be worn. Paint the uppers of boots red with water-proof enamel. Do not allow boots to be removed from the work area for any reason after being contaminated with LBPA debris. Dispose of boots as LBPA contaminated waste at the end of the work.
- **Gloves:** Inner gloves, appropriate for items and hazards encountered, and disposable outer work gloves shall be provided to each worker and shall be worn while the worker is in the work area. Glove material shall be appropriate for the specific chemical exposure. Gloves

- shall not be removed from the work area, and shall be disposed of as LBPA contaminated waste at the end of the work.
- **Hard hats:** Head protection (hard hats) shall be provided as required by OSHA for workers and authorized visitors. Protective plastic strap suspension hats shall be used. Hard hats shall be worn at all times that work is in progress. Hats shall remain in the work area until the project is completed. Hats shall be thoroughly cleaned, decontaminated, and bagged before being removed from the work area at the end of the project.
- **Eye protection:** Fog-proof goggles for personnel engaged in LBPA operations shall be worn when the use of a full face piece respirator is not required.
- **Work clothing:** Cloth work clothes shall be provided for wearing, under the disposable protective coveralls and foot coverings.

2.2 EXPENDABLE SUPPLIES

2.2.1 Polyethylene Sheet and Bags - General

Polyethylene sheet and bags shall be a minimum of 0.15 mm (6 mils) thick. Polyethylene sheets shall be in roll sizes to minimize seams.

Disposal bags shall be leak-tight polyethylene with preprinted labels (in accordance with local, State, and Federal requirements), and shall have 125 mm (5-inch) long plastic ties, pointed and looped to secure the filled bags.

Bags are to be labeled:

DANGER
LEAD CONTAINING MATERIALS
AVOID CREATING DUST

And / or

CAUTION
HAZARDOUS MATERIAL
LEAD CONTAINING MATERIALS
AVOID OPENING OR DISTURBING CONTAINER

2.2.2 Polyethylene Sheet - Reinforced

Reinforced polyethylene sheet shall be provided where high skin strength is required such as where it constitutes the only barrier between the LBPA control area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between two layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

2.2.3 Tape and Adhesive Spray

Tape and adhesive shall be capable of sealing joints between polyethylene sheets and for attachment of polyethylene sheets to adjacent surfaces. After dry application, tape or adhesive shall retain adhesion when exposed to wet conditions, including amended water. Tape shall be a minimum of 50 mm (2 inches) wide, industrial strength. Spray adhesive shall not contain methylene chloride, as listed on the product's label and/or Material Safety Data Sheet.

2.2.4 Containers

Impermeable containers shall be used to receive and retain lead-contaminated material until disposal. Containers shall be labeled in accordance with EPA, DOT, and OSHA standards.

2.2.5 Chemicals

Chemicals, including caustics and paint strippers, shall be properly labeled and stored in leak-tight containers.

Chemical paint strippers

Chemical paint strippers shall contain no methylene chloride and shall be formulated to prevent stain, discoloration, or raising, of the substrate materials.

Chemical paint stripper neutralizer

Neutralizers for paint strippers shall be used on exteriors only and shall be compatible with the substrate and suitable for use with the chemical stripper that has been applied to the surface.

2.3 VACUUM SYSTEMS

HEPA filtered vacuum systems shall be used during abatement operations which generate dust. The systems shall be suitably sized for the project, and filters shall be capable of removing particles as small as 0.3 micrometers at a minimum efficiency of 99.97 percent. Provisions shall be made to empty the debris (collection hopper) without causing visible emissions of particulate.

2.4 HEAT BLOWER GUNS

Heat blower guns shall be flameless, electrical, paint-softener type with controls to limit temperature to 590 degrees C (1,100 degrees F). Heat blower shall be DI (non-grounded) 120 VAC, and shall be equipped with cone, fan, glass protector, and spoon reflector nozzles.

2.5 ENCAPSULATES

Encapsulation paint must meet the requirements of ASTM Specification E 1795-96 and/or 1797-96. Encapsulating paint shall be guaranteed by the Manufacturer to remain as an encapsulant for a period of 20 years. This guarantee shall include impact surfaces (i.e. base boards, wall corners, etc.). The Contractors shall confirm the paint guarantee.

BITREX (or similar product) will be added to all paint for accessible surfaces.

** Note: BITREX is a paint additive that has a bitter taste and eliminates the danger of children being poisoned by chewing on "accessible surfaces" Per the manufacturer (BI Chemicals in NJ) the material is added at a rate of 50 ppm and costs approx. 3 to 4 cents per gallon of paint. Contractor to confirm that 20 year guarantee is not impacted

ENCAPSULATES SHALL BE SUBMITTED FOR APPROVAL BY THE SOUTH CAROLINA DEPARTMENT OF ARCHIVES AND HISTORY REVIEW AND COMPLIANCE STATE HISTORIC PRESERVATION OFFICE WHEN USED TO ENCAPSULATE HISTORICAL BUILDING SURFACES.

Product Requirements

The encapsulation system shall not allow the passage of substrate lead dust into the environment as measured using lead wipe method in HUD interim guidelines. The encapsulate shall be durable, vermin proof, mildew resistant, rust and rot proof, fire proof, and non-toxic in cured form. The encapsulate shall be able to penetrate (chemically) through existing layers of paint without flaking, cracking, peeling, or separating from the treated surface under normal conditions and the resulting encapsulate surface must be suitable for application of latex or enamel top coats.

Lead paint abatement encapsulates which may have applicability to work performed in accordance with this technical specification include:

- Acrylic elastomers.
- Acrylic latex emulsions.
- Synthetic organic resins with fiberglass admixtures.
- Synthetic organic resins for multi-step applications using imbedded fiberglass mats.
- Polymeric rubber compounds used for control of lead dust during demolition activities.
- Other innovative coatings with demonstrated effectiveness in lead paint encapsulation.

The following materials are not to be used as encapsulates:

- A new coat of paint or primer.
- Paper wall coverings.
- Contact paper

2.6 STORAGE OF MATERIALS

Materials shall be stored in a place and manner that protects them from damage and contamination. During periods of cold weather, plastic materials shall be protected from the cold. No flammable or hazardous materials shall be stored inside any building. Regularly inspect materials to identify damaged or deteriorating items. Damaged or deteriorated items shall not be used and shall be removed from the site as soon as they are discovered. Any materials which become contaminated with LBPA waste shall be disposed of consistent with the requirements of federal and state solid and hazardous waste laws and this specification. Stored materials shall not present a hazard or an inconvenience to workers, visitors, and/or other occupants and employees of the building.

3.0 EXECUTION

3.1 WORK PROCEDURES

LBPA shall be performed in accordance with the accepted contractor's LBPA Management Plan as approved. Procedures and equipment required to limit occupational and environmental exposures to lead during LBPA shall be in accordance with 29 CFR Part 1926, Section 62, and other applicable regulations and standards as specified herein. Paint chips and associated waste shall be disposed of in compliance with Federal, state, and local regulations.

3.1.1 Historical Preservation Procedures

The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

The preferred LBP abatement method on historical buildings and components is paint removal or encapsulation rather than removal and replacement.

The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

For more detailed guidance on historical preservation, specific preservation recommendations and not recommended procedures, refer to Standards for Rehabilitation (revised 1983), NAVFACMO-913, Facility Layaway Standards and Section 3.3, LBPA Methods in this specification.

3.1.2 Personnel Protection Procedures

Personnel shall wear and use protective clothing and equipment as specified. Eating,, smoking, drinking, chewing tobacco and chewing gum, and applying makeup shall not be permitted in the LBPA control area. Personnel of trades not engaged in the abatement and disposal of LBPA shall not be exposed at any time to airborne concentrations of lead equal to or in excess of 30 microgram per cubic meter of air.

3.1.3 Safety and Health Procedures

The Competent Person shall be present on the work site throughout the abatement project to supervise, monitor, and document the project's health and safety provisions. A daily log., shall be maintained showing the results of sampling tests throughout the project area.

3.1.4 Safety and Health Responsibilities

The Competent Person shall:

- Verify that training meets applicable requirements.
- Review and approve LBPA Management Plan for conformance to the applicable referenced standards.
- Inspect LBPA work for conformance with the accepted LBPA Management Plan.
- Ensure that worker exposure air monitoring activities are in accordance with 29 CFR Part 1926, Section 62.
- Ensure that work is performed in strict accordance with specifications.
- Ensure that hazardous exposure to personnel and to the environment are adequately controlled.

3.1.5 Medical Surveillance Procedures

Medical surveillance shall be implemented in accordance with the approved contractor's LBPA Management Plan, and shall comply with the requirements of 29 CFR Part 1926, Section 62, including the provisions for biological monitoring, medical removal protection, and a physician's written opinion, signed by the physician performing the employee examination.

3.1.6 Sampling Result

A daily log of the personal environmental air sampling test results shall be reviewed by the IH and submitted, in written form, no more than 48 hours after completion of the sampling cycle. The log

shall list each sample result, sampling time and date, sample type, identification of personnel monitored, flow rate and duration, air volume sampled, yield of lead, cassette size, analytical method used, analyst's name and company, and interpretation of results. Results shall be reported in micrograms of lead per cubic meter of air. In accordance with 40 CFR Part 50, the Ambient Air Standard for lead (for protection of the public) is 1.5 ppb. In addition, the daily log shall include the results of dust wipe samples, soil samples, and TCLP sampling for preabatement, during abatement, and for final clearance. Documentation of results that exceed specified limits (personal air samples that exceed an action level of 30 micrograms per cubic meter) or as required by federal, state, or local requirements shall be highlighted in the log in such a manner to make them easily distinguishable from monitoring results that do not exceed specified or regulatory limits.

3.2 ENGINEERING CONTROLS AND CONTAMINATED STRUCTURES

3.2.1 LBPA Control Area

The LBPA control area is where the lead-based paint removal occurs and as such shall be considered contaminated. The control area shall be decontaminated at the completion of the LBPA abatement and disposal work.

3.2.2 Boundary Requirements

Physical boundaries shall be provided around exterior LBPA control areas by roping off the area indicated in the LBPA Management Plan. Interior projects shall be isolated by curtains, portable partitions, or other enclosures to ensure that concentrations of lead dust outside the LBPA control area will not equal or exceed the preabatement level or 30 micrograms per square foot, whichever is greater.

3.2.3 Control Barriers

The LBPA control area shall be separated from other portions of the building and the outside with control barriers. The polyethylene sheeting will have all openings masked and sealed, and shall be erected according to the contractor's LBPA Management Plan. Polyethylene sheeting shall be mechanically supported, independent of duct tape or spray adhesive without damaging historical building components.

3.2.4 Preabatement Lead-Dust Wipe Samples

Preabatement lead-dust wipe samples shall be taken outside the LBPA controlled area, in accordance with HUD ACCN-5646. Samples shall be taken within 3 meters (10 feet) of the abatement structure at 20 percent of the area planned for abatement.

3.2.5 Masking and Sealing

Interior LBPA control area requirements

Openings shall be sealed where the release of airborne lead-based paint dust is expected. A control area shall be established with the use of curtains, portable partitions, or other systems in order to prevent the escape of dust from the contaminated control area. The control area shall be provided with protective covering of two layers of polyethylene sheeting over floors. Penetrations of the floor, walls, and ceiling shall be sealed with polyethylene sheeting and duct tape. Polyethylene sheeting shall be firmly attached to the structure. Joints shall be sealed with spray adhesive and duct tape. Openings shall be provided for the supply and exhaust of air for the negative air pressure system. Personal monitoring during the work shift shall be in accordance with 29 CFR Part 1926, Section 62.

Exterior LBPA control area requirements

Where the construction of a contained LBPA control area is impractical, a roped-off perimeter shall be installed 6 meters (20 feet) from, and around, the area where the LBPA handling procedures are performed and other requirements for LBPA control areas shall be maintained. Personal monitoring of airborne concentrations shall be conducted in adjacent areas, during the work shift, in accordance with 29 CFR Part 1926, Section 62 and 40 CFR Part 50 as appropriate (i.e., vicinity of public). Where wipe sampling is not practical, air monitoring outside of the roped-off perimeter shall be conducted as specified. Airborne concentrations shall not exceed specified levels.

3.2.6 Personnel Decontamination Unit Procedures

Decontamination units shall be constructed when required for the abatement procedures. Specifications and drawings of portable prefab units, such as a trailer unit, if utilized, shall be submitted for review and approval before start of construction. Submittal shall include, but not be limited to, a floor plan layout showing dimensions, materials, sizes, thickness, plumbing, and electrical outlets. A separate equipment decontamination unit shall be provided. Each work area shall have an emergency exit. The personnel decontamination unit's clean room shall be the only means of entrance and exit, except for emergencies, from the LBPA control area. Materials shall exit the LBPA control area through the equipment decontamination area.

3.2.7 Equipment Decontamination Unit Procedures

The Equipment Decontamination Unit shall be used for removal of equipment and materials from the LBPA control area, and shall include a wash room, holding room, and an enclosed walkway. The unit shall be constructed from wood framing material and polyethylene sheeting. Workers shall not enter or exit the LBPA control area through the Equipment Decontamination Unit. A wash down station, consisting of an enclosed shower unit, shall be located in the work area outside the Wash Room. The wash down station shall be used to clean equipment, bags and containers. Bagged or containerized LBPA wastes shall be passed from the work area and cleaned in the Wash Room. The Wash Room shall be separated from the work area by a polyethylene sheeting flap. Wastewater shall be filtered and filters shall be changed as required for the shower unit and the Wash Room. Filters shall be disposed of as LBPA contaminated wastes. The Holding Room shall be used as a drop location for bagged LBPA passed from the

Wash Room. This room shall be constructed so that bagged materials cannot be passed from the Wash Room through the Holding Room to the enclosed walk-way. The walkway shall be separated from adjacent rooms by double flaps of 1.6 mm (1/16-inch) thick single ply rubber roofing materials of EPDM or Neoprene. The enclosed walkway shall isolate the Holding Room from the building exterior and shall be constructed of wood framing, and polyethylene sheeting. The enclosed walkway shall provide access to the Holding Room from the building exterior. The enclosed walkway shall be separated from the exterior by a single flap of polyethylene sheeting.

3.2.8 Maintenance of Decontamination Units

Barriers and polyethylene sheeting shall be effectively sealed and taped. Containment barriers shall be visually inspected at the beginning of each work period. Damaged barriers and defects shall be immediately repaired upon discovery. Smoke methods shall be used to test effectiveness of barriers when directed by government.

3.2.9 Clean Room Procedures

A temporary unit with a separate equipment decontamination locker room and a clean locker room shall be provided for personnel who are required wear whole body protective clothing. Lead-free personal clothing and shoes shall be kept in the clean room. Hand wash stations and showers shall be located between the equipment decontamination locker room and the clean locker room, and employees shall wash or shower before changing into personal clothes. An adequate supply of clean disposable towels shall be provided.

3.2.10 Hand Wash Station Shower Room Procedures

An operational shower and hand washing station shall be provided between the work area and the clean changing room. Workers shall wash and/or shower before entering the clean changing room. Shower room shall be separated from other rooms by air-tight walls fabricated from polyethylene sheeting. Both hot and cold water shall be provided. Shower heads and controls, soap dish, continuing supply of soap, and clean towels shall be provided. The shower shall be maintained in a sanitary condition. Wastewater shall be contained and treated prior to discharge in accordance with local sewer ordinances, Navy standards for discharge to base sewers, or other applicable state regulations. Wastewater disposal method requires approval by the local water treatment authority. Disposal, when approved, shall be through the sanitary sewer.

3.2-11 LBPA Control Area Exiting Procedures

Personnel exiting a LBPA control area shall not leave the work place wearing any clothing or equipment worn during the work day and shall perform the following procedure:

- Vacuum all protective clothing before removing.
- Remove protective clothing in the decontamination room, and place this clothing in an approved impermeable disposal bag.

- Wash or shower.
- Change to clean clothes prior to leaving, the physical boundary designated around the lead-contaminated work site.

3.2.12 Temporary Utilities

Electrical power (110V/220V) and potable water service will be supplied at the facility. The subcontractor shall maintain the security and maintenance of the utility system in the LBPA control area. In the event of a failure of any utility system, The government will not be responsible for any loss of time or other expense incurred by the Contractor. Wiring and electrical service shall be in accordance with the National Electrical Code (NEC). In addition, the contractor shall provide:

- Back-flow protection on all water connections. Fittings installed by the contractor shall be removed after completion of work with no damage or alteration to existing water piping and equipment.
- Heavy-duty abrasion-resistant hoses to provide water to the work area and decontamination area.
- A hot water heater, if hot water is not supplied, to the decontamination showers.
- Electrical service to work areas. Electrical service shall comply with NEC and UL standards. Warning signs shall be posted at power outlets which are other than 110-120 volt power. Only grounded extension cords shall be used. Incandescent lamps and light fixtures shall be of adequate wattage to provide good illumination in LBPA control areas.
- Temporary heating units, when needed, that have been tested and labeled by UL, FM, or another recognized trade association related to the fuel being consumed, Forced air or fan type units shall not be utilized inside a work area. Units shall have tip-over protection.
- Sufficient quantity of single-occupant, self-contained chemical toilets, properly vented and fully enclosed, if permanent toilets are not available.

3.3 LBPA METHODS

The SPORTENVDETCHASN is responsible for choosing the removal method that will meet the requirements of the specification. When applicable, requirements stated in the Historic Structures Preservation Manual, Standards for Rehabilitation and Guidelines for Rehabilitating Historical Buildings and Facility Layaway Standards shall be followed. The method(s) selected should remove all lead paint from the surface without damage to the substrate surface. abatement methods that produce uncontrolled dust or fumes will not be acceptable methods of removal.

3.3.1 Lead-based Paint Removal

The following lead-based paint removal methods may have applicability for the facility subject to the abatement activities. The contractor shall select the appropriate method(s) based upon the scope of work and additional information as may be provided by the government .

- HEPA vacuum system
- Heat gun (operating temperature must be controlled to prevent release of toxic fumes)
- Mechanical scraping - includes hand and power tools (historic structures require use of natural bristle or nylon brushes).
- Chemical strippers containing methylene chloride are prohibited. The Subcontractor shall use non-hazardous, non-carcinogenic, and low- to no-odor chemicals.
- Needle Gun - Lead-based paint may be removed by needle gun with the device fitted to HEPA vacuum system. Work shall be performed in a LBPA control area using negative pressure full containment with HEPA filtered exhaust. Adequate fire extinguishing and electrical resources shall be available.
- Water jetting without abrasives.
- Water jetting with abrasives is prohibited on all historical houses.
- Open abrasive blast cleaning with expendable abrasives is prohibited on all historical houses.
- Closed abrasive blast cleaning and recyclable abrasive is prohibited on all historical houses.
- Vacuum blasting is prohibited on all historical houses.
- Alternative techniques may be used only with prior written approval.
2 years on-the-job experience.

Paint removal methods that are not acceptable without the prior written approval :

- Dry scraping.
- Open flame burning or torching.
- Heat gun operating above 1,100°F.
- Machine sanding or grinding without a HEPA vacuum exhaust tool.
- Uncontained hydroblasting or high pressure wash. Abrasive blasting or sandblasting without a HEPA vacuum exhaust tool is Prohibited
- Methylene chloride chemical paint removers.

3.3.2 Lead-based Paint Encapsulation

Encapsulation of lead-based paint may be accomplished by on site encapsulation using a variety of products as listed in Section 2.5, "Product Requirements." The contractor shall provide a complete description of the recommended encapsulates in the LBPA Management Plan. This description shall include the chosen method(s) of application of each encapsulate recommended and a schedule of surfaces where the encapsulates is to be applied.

Encapsulating agents are also used in abrasive blasting compounds to chemically bond the lead in a non-leachable matrix. When the contract Scope of Work requires the use of abrasive blast in the blast media shall include an encapsulating agent. Lead paint waste generated by the use of these products shall be characterized using the TCLP test protocol from 40 CFR 261. Encapsulating agents will be used that result in the lead paint wastes being characterized as non-hazardous.

The recommended encapsulating agents, their proportions in the blast media, and their documented results in similar applications must be stated in the LBPA Management Plan.

3.4 METHODS OF COLLECTING DEBRIS

The contractor shall recommend the method of lead paint debris collection for each identified work zone in the LBPA Management Plan. Acceptable methods include the following. Alternative methods may be proposed by the contractor.

Localized collection at point of cleaning

Localized collection at point of cleaning, involves surrounding the coating, removal equipment with a localized containment enclosure equipped with a vacuum to permit the collection of the debris as it is being generated.

General area collection

General area collection involves the removal of paint debris from a containment structure that encloses the work area, workers, and tools rather than only enclosing, the removal tool itself.

3.5 MONITORING/SAMPLING

During the entire LBPA removal and disposal operations, and IH/Competent Person shall be on site directing the monitoring/sampling and inspecting the work to ensure that the health and safety requirements of this contract are satisfied.

3.5.1 Personal Air Monitoring

Airborne concentrations of lead shall be collected and analyzed in accordance with 29 CFR Part 1926, Section 62. Results shall be reported in micrograms per cubic meter of air. The Competent Person shall use personal air monitoring results to determine the effectiveness of engineering

controls, the adequacy of PPE and to determine if proper work practices are being employed. The government shall be notified if any personal air monitoring result equals or exceeds 30 micrograms per cubic meter of air. The SPORTENVDETCHASN shall take steps to reduce the concentration of lead in the air.

3.5.2 Wipe Sampling

- Wipe sampling for lead dust concentrations shall be conducted
- Preabatement to establish a baseline.
- During abatement to monitor activities and ensure containment integrity.
- Post abatement to determine if specified clearance criteria has been met.

Preabatement

Preabatement wipe samples shall be collected outside the LBPA control area in accordance with Section 3.2.4, "Preabatement Lead-Dust Wipe Samples." Samples outside the LBPA control work area shall be collected at critical barriers, in the clean room of the decontamination unit and in traffic control areas such as personal and equipment entrances.

Abatement

The SPORTENVDETCHASN shall collect wipe samples during all LBPA abatement activities on a daily basis. The samples shall be collected outside the LBPA control area in accordance with Section 3.2.4, "Preabatement Lead-Dust Wipe Samples." Samples shall be collected outside the LBPA control work area at critical barriers, in the clean room of the decontamination unit, and in traffic control areas such as personal and equipment entrances.

Results

The contractor shall have the results of the wipe sampling within 48 hours after the completion of the sampling. Results shall be reported in micrograms per square foot.

Excessive levels

LBPA abatement work being conducted within a LBPA control area shall be stopped if measured dust wipe concentration levels collected outside the containment area, during abatement, equal or exceed the preabatement levels or 30 micrograms per square foot. The Contractor shall immediately notify the government. At the direction of the government the contractor shall clean outside areas which equal or exceed the levels stated above. The cleaning shall be in accordance with Section 3.6, "Cleanup and Disposal," prior to clearance. The contractor shall collect and have analyzed additional wipe samples to ensure that the areas are clean. Cleaning and sampling shall continue until levels as stated above are achieved. The Contractor shall correct containment and/or work practices to mitigate the problem. Removal work shall resume when problem is corrected.

Post abatement

Post abatement samples shall be collected in accordance with Section 3.6.5, "Final Clearance Testing. "

3.5.3 Area Air Monitoring

Airborne concentrations of lead shall be collected (outside the work area where wipe sampling, is not practical) and analyzed in accordance with 29 CFR Part 1926, Section 62. Results shall be reported in micrograms per cubic meter of air.

Preabatement

Preabatement samples shall be collected in the following locations outside the work area; one upwind of the abatement and two downwind of the abatement activities.

Abatement

The IH/Competent Person shall collect area air samples on a daily basis. The samples shall be collected in the same location as the preabatement samples.

Results

The contractor shall have the results of the area air monitoring within 48 hours after completion of the sampling. Results shall be reported in micrograms per cubic meter of air.

3.5.4 Waste Sampling and Testing

Sampling and testing of all waste shall be in accordance with 40 CFR Part 261 and appropriate state equivalents.

3.5.5 Soil Sampling and Abatement

Preabatement

In order to establish baseline lead-in-soil conditions on the site prior to the initiation of lead abatement, composite soil samples shall be collected near the immediate area of abatement, and analyzed for total lead using EPA Method 7420 (or other procedures required by the state where work is being performed). A minimum of one sample shall be taken approximately 10 feet from the building line on each side of the building.

Soil Abatement

Excavate in 4 inch lifts, five feet wide in areas where Lead Survey indicated lead levels above 400 PPM. For those areas that still remain above 400 PPM, remove these "hot spots" to below 400 PPM and backfill with clean soil. Lead usually doesn't go deep into the soil from paint chips. It generally lives in the top inch. Do not remove trees or large bushes.

Post abatement

Post abatement soil samples shall be collected in the same locations as the preabatement samples utilizing the same procedures. If post abatement soil samples exceed the preabatement levels, The contractor will be required to perform soil excavation to a depth of 50 mm (two inches) in the area specified by the government. The soil shall be tested as specified in Section 3.6, "Cleanup and Disposal." Analysis that exceed TCLP limits shall be treated as LBPA contaminated waste and disposed accordingly.

3.6 CLEANUP AND DISPOSAL

3.6.1 Cleanup

The contractor shall begin final cleanup no less than 24 hours (unless notified otherwise) after final clearance and all materials, equipment, and debris have been removed. The entire work area including all surfaces shall be HEPA vacuumed free of paint debris and washed with a phosphate detergent.

3.6.2 Daily

Surfaces in the LBPA control area shall be maintained free of accumulations of paint chips and dust. Spread of dust and debris shall be restricted. Waste shall not be distributed over the work area. Dry sweep or compressed air shall not be used for cleanup. At the end of each shift, the area shall be cleaned of visible lead paint contamination by vacuuming with a HEPA filtered vacuum cleaner and wet mopping the area. LBPA work shall cease during the cleanup.

3.6.3 Prior to Clearance

Upon completion of the lead paint abatement and a satisfactory visual inspection by the Contractor and inspector in a given work area, a preliminary cleanup shall be performed by the Contractor. The cleanup includes removal of any contaminated material, equipment, or debris including polyethylene sheeting from the work area, except for critical barriers. The polyethylene sheeting shall be sprayed or misted with water for dust control, abatement debris removed, and then the sheeting removed by folding it in upon itself. Polyethylene sheeting used for critical barriers shall remain in place until final clearance criteria. The following methodology shall be utilized during the cleanup prior to clearance.

- Lead-contaminated debris shall be containerized in accordance with Section 3.6.8, "Contaminated Waste." Waste bags shall not be overloaded, shall be securely sealed and stored in the designated area until disposal. Hazardous waste shall be stored in compliance with the container requirements of 40 CFR 264.

- Uncontaminated debris shall be containerized, removed from the work area, and stored in the designated area until disposal in accordance with Section 3.6.8, "Uncontaminated Waste."
- Removal of surface polyethylene sheeting shall begin from upper levels such as cabinets and shelves. Removal of floor polyethylene sheeting shall begin at the corners and folded in the middle to contain the dust. Polyethylene shall be disposed of as specified for debris.
- Cleaning. Once the polyethylene sheeting, except critical barriers is removed from the work area, cleaning shall begin. It shall be done in the following sequence: HEPA Vacuum; Tri-Sodium Phosphate (TSP) wash (or equivalent cleaner); and HEPA Vacuum.
- HEPA vacuum. Vacuum all surfaces. Begin with ceilings and proceed down the walls including window, doors, door trim and ending with floors. Begin vacuuming at the furthest corner from the entrance to the work area.
- Wet wash. Wash or mop the surfaces vacuumed in the same sequence. Contractor shall utilize a trisodium phosphate (TSP) detergent solution or other equally effective cleaning agent and allow surface to dry.
- Cleaning equipment. The contractor shall prepare and use detergents containing five to ten percent TSP or other equally effective cleaning agent which shall be used in accordance with the manufacturer's instructions. The waste water from cleaning shall be contained and disposed of according to applicable Federal, state, county and local regulations and guidelines. The wastewater shall not be disposed of in storm sewers or sanitary sewers without authorization from the city of North Charleston.

3.6.4 Visual Inspection

Upon completion of the final cleaning, the contractor shall notify the government and request a final visual inspection by the SPORTENVDETHASN's project superintendent and the ROICC. Specific clearance requirements will be provided in the Scope of Work for LBPA at the facility in question. If the area does not pass the visual inspection, (wipe samples) the SPORTENVDETHASN shall clean the area as required by Section 3.6, "Cleanup and Disposal. Final clearance testing shall not proceed until final cleaning.

3.6.5 Final Clearance Testing

Final clearance surface dust sampling in accordance with HUD ACCN-5646 shall be conducted after a thorough cleanup has been completed in accordance with the following:

- **On site paint removal in limited areas.** Three samples shall be taken (one from a window sill, one from a window well, and one from the floor) in each area abated and one sample outside the containment area (within ten feet in 20 percent of the abated units). Pre-abatement wipe samples shall be compared to determine if dust from the abatement process has contaminated non-abated areas. The contractor cleanup these areas if contamination from the abatement process occurs.
- **Replacement and/or encapsulation only in limited areas.** One wipe sample shall be taken in each abated area divided equally between window wells, window sills, and floors, and one wipe sample outside the containment area (within ten feet in 20 percent of the abated units).
- **Exterior abatement.** At least one wipe sample shall be taken on a horizontal surface in part of the living area such as a front porch.
- **Retests.** Should laboratory results indicate that the wipe test clearance level is exceeded, the SPORTENVDETHASN shall clean the affected area, at no additional cost to the government. The contractor shall utilize specified cleaning methods. Retesting will then be performed to determine if specified clearance criteria was met. The contractor shall pay for additional testing and shall provide, at no additional cost, a cleaning of an affected area until the clearance level is achieved.

3.6.6 Removal of Control Area

After approval of the final clearance certification the LBPA control area, containment barriers, and control structures roped-off boundary and warning signs shall be removed.

3.6.7 Disposal

Toxicity Characteristic Leaching Procedure (TCLP) results

The results of the TCLP analysis performed during abatement shall be used to determine disposal procedures.

Contaminated waste

Lead-contaminated waste, scrap, and debris shall be disposed of as follows:

- Lead-contaminated waste, scrap, debris, bags, containers, equipment, and lead-contaminated clothing,, which may produce airborne concentrations of lead particles shall be stored in U.S. Department of Transportation 49 CFR Part 178 approved 200 liter (55 gallon) drums. Each drum shall be labeled to identify the type of waste as defined in 49 CFR Part 172 and the date lead-contaminated wastes were first put into the drum. Uniform Hazardous Waste Manifest forms from federal and state agencies shall be obtained and completed. The manifest will be completed by the contractor; however, the base ROICC (or his designee) will sign as the generator. Land disposal restriction notifications shall be as required by 40 CFR Part 268. The government shall be notified at least 14 days prior to delivery to arrange for job site

inspection of the drums and manifests. Lot deliveries of hazardous wastes shall be made as needed to ensure that drums do not remain on the work site longer than 90 calendar days from the date affixed to each drum. The government will assign an area for interim storage of waste-containing drums.

- Lead-contaminated waste shall be handled, stored, transported, and disposed of in accordance with 40 CFR Parts 260, 261, 262, 263, 264, and 265. Land disposal restriction notification shall be as required by 40 CFR Part 268.

Disposal documentation

Written evidence shall be provided that the hazardous waste treatment, storage, or disposal facility is approved for lead disposal by the EPA and state or local regulatory agencies. One copy shall be submitted of the completed manifest, signed, and dated by the initial transporter in accordance with 40 CFR Part 262.

Uncontaminated waste

The SPORTENVDETHASN shall be responsible for the segregation, storage (on site) and disposal of all uncontaminated solid waste. Disposal will be in accordance with all local, state, and federal regulatory requirements.

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C

**Project Submittal for
Lead-Based Paint Abatement Project for
Charleston Naval Shipyard Complex,
Officer Single Family Housing
Charleston, South Carolina**

prepared for:

Environmental Detachment Charleston
1899 N. Hobson Avenue
N. Charleston, S.C. 29405-2106

prepared by:

Cape Environmental Management Inc
2302 Parklake Drive, Suite 200
Atlanta, GA 30345-2907

Project Submittal

For

**Lead-Based Paint Abatement Project for Charleston Naval Shipyard
Complex, Officer Single Family Housing**

**Prepared for
Environmental Detachment Charleston
1899 N. Hobson Avenue
N. Charleston, S.C. 29405-2106**

**Prepared By
Cape Environmental Management, Inc.
2302 Parklake Drive
Suite 200
Atlanta, GA 30345**

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Appendix

Lead- Based Paint Abatement (LBPA) Management Plan

Section 1

Analytical Support

The American Industrial Hygiene Association



is proud to acknowledge that

Hygeia Laboratories, Inc.
Marietta, GA
Laboratory ID# 9072

*has fulfilled the requirements for Environmental Lead
Laboratory Accreditation Program and has earned
distinguished recognition as an*

AIHA Accredited Laboratory

*Current certificate effective October 1, 1997 to October 1, 2000, subject to continued
compliance with AIHA accreditation criteria.*

The above named laboratory participates in the following:

ELLAP - ELPAT matrices: Paint, Soil, Dust

*The ELLAP program is recognized by the EPA as meeting the requirements of the National Lead Laboratory
Accreditation Program established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of
1991 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.*

James C. Rock

James C. Rock, Ph.D., PE, CIH
President, American Industrial Hygiene Association

Mark A. Puskar

Mark A. Puskar, Ph.D.
Chair, Analytical Accreditation Board

583
Certificate Number

ELPAT

026

ENVIRONMENTAL LEAD PROFICIENCY ANALYTICAL TESTING (ELPAT) PROGRAM
 INDIVIDUAL LABORATORY REPORT FOR ROUND 026
 LAB ID=09072 MARCH 16, 1999
 HYGEIA LABS INC., MARIETTA, GA 30066-6299

SAMPLE TYPE	SAMPLE NO.	REPORTED RESULTS	REFERENCE VALUES *	ACCEPTABLE LOWER	RANGE # UPPER	LAB @ PERFORMANCE	Z & SCORE
Paint Chips (%)	1	0.0922	0.0942	0.0758	0.1125	A	-0.32
	2	2.544	2.3956	1.9294	2.8618	A	0.96
	3	0.973	0.8519	0.6733	1.0305	A	2.03
	4	5.7591	5.7041	4.3304	7.0779	A	0.12
Soil (mg/kg)	1	123.8	140.5	106.1	174.9	A	-1.46
	2	516.9	533.1	446.1	620.2	A	-0.56
	3	394.6	408.3	340.2	476.4	A	-0.60
	4	60.3	67.6	48.5	86.6	A	-1.15
Dust Wipes (ug)	1	101.6	93.4905	67.6	119.4	A	0.94
	2	262.5	272.5147	214.1	330.9	A	0.51
	3	529.8	567.5491	459.9	675.2	A	-1.05
	4	105.1	119.0828	92.3	145.8	A	-1.57

* Reference value is the mean of the reference laboratories
 # Upper limit: reference value + 3 standard deviations
 Lower limit: reference value - 3 standard deviations
 @ A: Analysis acceptable; -: Results not reported
 H: Results > upper limit, L: Results < lower limit, not acceptable
 & Z Score = (reported result-reference value)/standard deviation
 Note: the acceptability of reported results is based on z-scores.
 This is why a reported result may appear acceptable according to performance limits, but be identified as an outlier.

LABORATORY YEAR-TO-DATE PERFORMANCE REPORT
 LAB ID=09072

SAMPLE TYPE	ROUND NO.	ROUND * PERFORMANCE	ACCUMULATED 4 ROUNDS(%)	PERFORMANCE 2 ROUNDS(%)	PROFICIENCY RATING #
Paint Chips (X)	023	4/4			
	024	2/4			
	025	4/4			
	026	4/4	14/16	87	8/8 100
Soil (mg/kg)	023	4/4			
	024	4/4			
	025	1/4			
	026	4/4	13/16	81	5/8 62
Dust Wipes (ug)	023	4/4			
	024	4/4			
	025	4/4			
	026	4/4	16/16	100	8/8 100

* The denominators represent the number of total samples analyzed.
 The numerators represent the number of acceptable results.
 # P : Proficient NP: Nonproficient -: Not Rated
 Performance ratings are based on accumulated results over four rounds (one year). A lab's performance in ground paint chips, soil, or dust wipes is rated proficient (P), if: 1) three-fourths (75%) or more of the accumulated results over four rounds are acceptable or 2) for the last two rounds, all samples are analyzed and the results are 100 % acceptable.

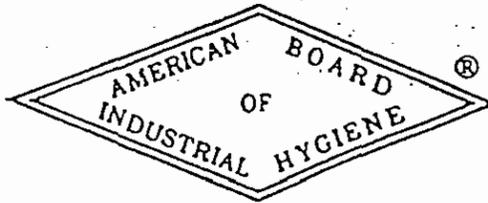
type	ANALYTE	ELPAT 14	ELPAT 15	ELPAT 16	ELPAT 17	ELPAT 18	ELPAT 19	ELPAT 20	ELPAT 21	ELPAT 22	ELPAT 23	ELPAT 24	ELPAT 25	ELPAT 26
PC	Pb-1	AC	LOW	AC	AC									
PC	Pb-2	AC												
PC	Pb-3	AC												
PC	Pb-4	AC	LOW	AC	AC									
SO	Pb-1	AC	LOW	AC										
SO	Pb-2	AC												
SO	Pb-3	AC	LOW	AC										
SO	Pb-4	AC	LOW	AC										
DW	Pb-1	AC												
DW	Pb-2	AC												
DW	Pb-3	AC												
DW	Pb-4	AC												
TOTAL		12	12	12	12	12	12	12	12	12	12	12	12	12
Acceptable (AC)		12	12	12	12	12	12	12	12	12	12	12	10	9
Not Acceptable (NA)		0	0	0	0	0	0	0	0	0	0	2	3	0
PC = Paint Chips		P	P	P	P	P	P	P	P	P	P	P	P	P
SO = Soil		P	P	P	P	P	P	P	P	P	P	P	P	P
DW = Dust Wipes		P	P	P	P	P	P	P	P	P	P	P	P	P
due date		3/4/96	6/3/96	9/4/96	12/2/96	3/3/97	6/2/97	9/3/97	12/1/97	3/1/98	6/1/98	8/31/98	12/1/98	3/1/99
technique		ICP	ICP	ICP	FLAA	ICP	ICP	FLAA						

Section 2

Qualifications of Personnel - Documentation

2.1 Certified Industrial Hygienist (CIH)

The
American Board of Industrial Hygiene®
ABIH®



organized to improve the practice of Industrial Hygiene
proclaims that

Michael Dennis Mount

having met all requirements through
education, experience and examination,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH

November 8, 1996

date

Terry D. Thadell

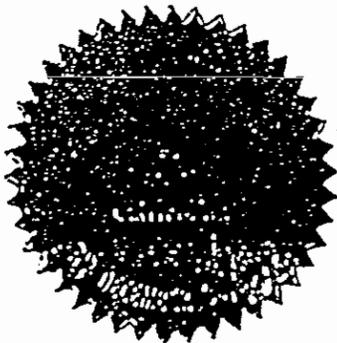
Chair ABIH

CP 7228

certificate
number

Roy T. Conner

Secretary ABIH



**ANALYTICAL ENVIRONMENTAL INTERNATIONAL TECHNOLOGIES, INC.
LEAD BASED PAINT INSPECTOR TRAINING**

CERTIFIES THAT

Michael D. Mount
424-90-6905

HAS SUCCESSFULLY COMPLETED REQUIREMENTS FOR THE

**LBP INSPECTOR TRAINING
24 HOURS**

**HAVING SATISFIED THE REQUIREMENTS OF THE GEORGIA LEAD POISONING PREVENTION ACT,
O.C.G.A., 31-41-1, ET SEQ. AND THE RULES FOR LEAD BASED PAINT, ABATEMENT AND
CERTIFICATION CHAPTER 391-3-24.**

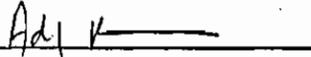
CONDUCTED

7/27/98 - 7/29/98

BY ANALYTICAL ENVIRONMENTAL INTERNATIONAL TECHNOLOGIES, INC.

**155 RIVER COURT PARKWAY, ATLANTA, GA 30328
Course Location: 585 Old Norcrons Rd. St.K Lawrenceville, Ga**

Serial Number: 2000
Passed Exam: 7/29/98
Expiration Date: 7/28/2001


Ady Padan, PhD.
Training Manager

**ANALYTICAL ENVIRONMENTAL INTERNATIONAL TECHNOLOGIES, INC.
LEAD BASED PAINT RISK ASSESSOR TRAINING**

CERTIFIES THAT

Michael D. Mount
424-90-6905

HAS SUCCESSFULLY COMPLETED REQUIREMENTS FOR THE

**LBP RISK ASSESSOR TRAINING
16 HOURS**

**HAVING SATISFIED THE REQUIREMENTS OF THE GEORGIA LEAD POISONING PREVENTION ACT,
O.C.G.A., 31-41-1, ET SEQ. AND THE RULES FOR LEAD BASED PAINT, ABATEMENT AND
CERTIFICATION CHAPTER 391-3-24.**

CONDUCTED

7/30/98 - 7/31/98

BY ANALYTICAL ENVIRONMENTAL INTERNATIONAL TECHNOLOGIES, INC.

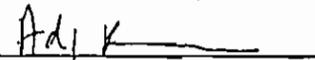
155 RIVER COURT PARKWAY, ATLANTA, GA 30328

Course Location: 585 Old Norcrons Rd. St.K Lawrenceville, Ga

Serial Number: 1000

Passed Exam: 7/31/98

Expiration Date: 7/30/2001



**Ady Padan, PhD.
Training Manager**

MICHAEL D. MOUNT, CIH, OHST

Project Manager

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C

Years Experience: 13

Education & Training:

- BS Environmental Science, Troy State University, 1982
- NIOSH 582 Sampling and Evaluation Airborne Asbestos Dust, 1984
- OSHA 40 Hour HAZWOPER, 1994
- EPA/AHERA Abatement Supervisor, 1994
- Comprehensive Review For Industrial Hygiene Professionals, 1994
- EPA/AHERA Inspector & Management Planner, 1996
- Radiation Safety Training for XRF Instrumentation, 1994

Professional Registrations and Affiliations:

- Certified Industrial Hygienist, #CP7228, ABIH, 1996
- Occupational Health and Safety Technologist, #963, ABIH/BCSP, 1989
- Member of Local and National American Industrial Hygiene Association since 1990

Summary:

Mr. Mount brings 13 years of experience of industrial hygiene and environmental services to CAPE's Industrial Hygiene team. His experience includes performing industrial hygiene monitoring and safety surveys, environmental audits, indoor air quality surveys, and asbestos surveys; managing and supporting field staff during remediation projects; and analyzing air samples for particulate content using phase contrast and transmission electron microscopy. Management experience includes serving as program/project manager for large multi-disciplinary projects, as well as technical proposal preparation, fee negotiation, quality control, project start-up, staffing & planning, budgetary oversight, and cost estimating/cost control.

Experience:

- Industrial Hygiene Surveys
- Asbestos Project Management/Design
- Lead Project Management/Design
- Air Monitoring Surveys
- IAQ Investigations
- Developing Health & Safety Programs

Representative Projects:

- Site Safety Reviewer: February 1996 to present; BellSouth Telecommunications; Reviewed site safety plans for ongoing tank replacement program for over 100 sites located through out the Southeast.
- Site Safety and Health Manager: June to July 1997, Metropolitan Atlanta Transit Authority. Supervised site safety during removal of soil contaminated with petroleum hydrocarbons. Primary concerns were confined space entry, explosion hazards and benzene exposure.

- **Noise Survey:** July 1997; Beaulieu of America; Performed noise survey and frequency analysis at a nylon manufacturing operation to determine feasibility of abatement and selection of noise reduction techniques and materials.
- **Indoor Air Quality Survey:** April 1997; General Service Administration. Performed indoor air quality survey at a GSA facility housing a social security and IRS offices. The survey included interviewing building occupants, collecting air samples, documenting environmental conditions, and inspecting HVAC systems. The data was analyzed and a report written with recommendations to correct the differences noted in the HVAC system.
- **Project Manager:** August 1997; BellSouth Telecommunications, Executive Park, Building No. 7. Developed and managed air sampling program during an asbestos abatement project that occurred over a communication system that was enclosed within the work area. The communication system was kept in operation throughout the 4-week project.
- **Asbestos Program Development:** March 1996-April 1997; Southern Division of the Navy; Managed asbestos survey performed at Naval Training Station in Jacksonville, Florida. Responsibilities included developing site safety plan, overseeing sample collection, cost estimating, data interpretation, developing written reports and O&M Program.
- **Supervising Industrial Hygienist:** February 1996; Institute of Paper Science and Technology, Atlanta, Georgia. Responsibilities included developing a sampling plan for formaldehyde in an industrial paper corrugation facility. He also supervised the sample collection and prepared the final report for the project.
- **Industrial Hygienist:** March 1994; Private Client, Responsibilities included sample collection and site safety at a USEPA superfund site contaminated with lead arsenate and using scanning electron microscopy techniques to identify the source of lead arsenate.
- **Industrial Hygienist:** May 1996; Service Painting Company, Monroe, Louisiana. Responsibilities included the development of a sampling plan and the collection of personal air samples to estimate employee exposure to airborne lead during sandblasting operations.
- **Fly Ash Source Determination:** July 1993; Bell and Pannel, PC Developed and executed sampling plan to determine extent of contamination of fly ash containing heavy metals throughout a residential area that surrounded the hazardous waste.
- **OSHA Safety Audit:** June 1990; Sheet Metal Manufacturer, Performed safety audit of a sheet metal manufacturing facility for site safety hazards. Project included review of OSHA 200 logs, facility walk through and process review.
- **Laboratory Safety Manager:** April 1992 to February 1996; MVA Inc., Responsibilities included developing, implementing, and managing the safety program of an analytical microscopy laboratory that utilized high voltage electron microscopes for determining molecular composition of known and unknown materials.
- **Laboratory Analyst:** April 1992-February 1996; MVA, Inc. Performed light microscopy and transmission electron microscopy analysis on various sample types to determine particle makeup or quantify the amount of toxic substances in material and dust samples.

- **Industrial Hygienist:** May 1992; Ness Motley Law Offices, Developed sampling strategy and collected samples to determine asbestos content of dust to be used as evidence in personal injury litigation cases.
- **Industrial Hygienist:** December 1989 to May 1997; US Sprint, Florida. Responsibilities included supervision of a multi-phased asbestos removal project. Specific tasks included conducting industrial hygiene surveillance and air monitoring, project documentation and on-site health and safety.
- **Asbestos Surveyor:** March 1987; Furman University, Greenville, South Carolina. Responsibilities included collection of suspect asbestos-containing bulk samples, documentation of the condition and location of the samples, recommended response actions and cost estimates.
- **Asbestos Surveyor:** March 1990 to December 1991; Emory University, Atlanta, Georgia. Performed asbestos surveys of chemistry, biology and geology buildings. The objective of these surveys was to identify existing asbestos containing materials so that proper consideration could be given them during yearly architectural planning meetings.
- **Supervisor:** April 1987 to August 1987; United Telephone of Florida, Naples, Florida. Responsibilities included developing a sampling plan and supervised air monitoring during asbestos abatement of a multi-story office building.

2.2 On-Site Industrial Hygienist (IH)

RESUME

ROBERT M. BEASLEY

POSITION: Environmental Specialist
AEC
630 Duncan Ward Road
Seneca SC 29672

FIELD OF COMPETENCE:

Asbestos Project Management,
Asbestos Air Sampling
Certified Phase Microscopist
Lead Inspector

AHERA Asbestos Survey and Assessment
Supervision of Asbestos Abatement
Lead Risk Assessor
Project Management

CURRENT LICENSES:

SC Consultant(AHERA) / Building Inspector
SC Air Sampler

SCDHEC License # 20896
SCDHEC License # 20543

CURRENT E.P.A CERTIFICATIONS:

Lead Based paint Risk Assessment

Inspecting for Lead In Residences

KEY PROJECTS AND ASSIGNMENTS:

Asbestos Air Monitor:

Asbestos Air Monitor for Marine Logistics base in Albany, GA. Responsibilities included Asbestos Air area sampling and OSHA compliance sampling during asbestos abatement.

Job Duration: 2 Months

Client Contact: Harry Pepper and Associates

Phone: Jay 912-878-6920

Asbestos Air Monitor for Marine Recruit Depot ,Parris Island, South Carolina.

Responsibilities included inspection for hazards and daily Asbestos area and Personal (OSHA) Air sampling.

Job Duration: 2 Months

Client Contact: The Adams Group, Inc.

Asbestos Air Monitor continued:

Asbestos Air/Lead Air Monitor for Michelin US1, located in Greenville, South Carolina
Duties included asbestos air monitor for building owner. Acted as project manager for building owner to assure full compliance with all EPA and OSHA Laws.

Job Duration: 2 Months

Client Contact: Ed Long, Michelin US1

Phone: 864-458-6579

Asbestos Air Monitor for LaFrance Industries in LaFrance, South Carolina Provided asbestos air monitoring for building owner.

Job Duration: 1 Month

Client Contact: Jeff Galloway

Phone: 864-295-6400

Asbestos Inspector:

Inspector of The City County Complex Located in Florence South Carolina.
Inspection will facilitate upcoming renovations to the third floor jail facility.

Client Reference: Delaine R. Martin, Building Administrator (803)-679-0579

Inspector of the Landmark motel located in Myrtle Beach, South Carolina
Duties included inspection and assessment for a building wide renovation.

Client Reference: Larry Timbes, Stevens and Wilkins Architects (803)-244-9898

Inspector Of more than 40 residential houses to be demolished for the City of
Florence, South Carolina

Client Reference: Jeff Thomas, Rehabilitation Specialist (803)-665-3175

Asbestos Inspector continued:

Inspector of Wilson and McLeod Hospitals located in Florence, South Carolina. Air Monitoring was also performed during a building wide renovation for Wilson hospital. Duties included project management and project administration.

Client Reference: Dean Wallace, Director of Housekeeping (803)-667-2218

1990-1993 S&ME, Inc. Charlotte, North Carolina

Asbestos Specialist

Conducted air monitoring and analysis for the Veterans Hospital located in Asheville, North Carolina. Conducted Asbestos surveys for Clients such as The North Carolina Department of Transportation, Owings Corning Fiberglass and many other clients.

1989-1990 Asbestos Environmental Consultants

Asbestos Specialist

Conducted air monitoring and analysis for Darlington County School Systems, Sonoco Products Company, James River Corporation, Baxter Travenol. Conducted Asbestos Surveys and Assessments for major building complexes and wrote asbestos removal specifications for projects as large as 100,000 S.F. and monitored abatement projects as large as \$250,000 in cost.

1987-1989 Mike Gaston, CIH, Inc.

Industrial Hygienist/Microscopist

In charge of the Washington D.C. Laboratory at the Berkshire apartments during a building wide renovation. Also served as project manager for asbestos abatement at the Berkshire apartments. Performed Industrial Hygiene services and air monitoring for Maryland Department of Transportation, Maryland Port Authority, Arlington Hospital Johns Hopkins Hospital and many other place throughout the tri-state area.

1984-1987 The Institute for Resource Management, Inc.

Industrial Hygienist/Microscopist

Conducted research in the asbestos abatement industry. Wrote procedures and specifications for the State of Maryland. Performed Defendant air monitoring for the State of Maryland.

Education:

- July 15, 1987 Occupational Medical Center, NIOSH 582, Airborne Asbestos Sampling and Evaluation Techniques.
- June 16, 1988 Brujos Scientific, Inc. AHERA Supervisor Training
- August 8, 1988 Georgia Institute of Technology, Inspecting Buildings for Asbestos
- August 11, 1988 Georgia Institute of Technology, Managing Asbestos In Buildings
- May 26, 1989 American Environmental Safety Institute, Inc., Supervision of Asbestos Abatement Projects Refresher
- April 1990 American Environmental Safety Institute, Inc., Supervision of Asbestos Abatement Projects Refresher
- October 26, 1990 Asbestos Abatement Associates, Inc., Management Planner Refresher
- October 26, 1990 Asbestos Abatement Associates, Inc., Inspector Refresher
- February 7, 1991 Medical University of South Carolina, Supervision of Asbestos Abatement Projects Refresher
- August 16, 1991 Medical University of South Carolina, Asbestos In Buildings, Management Planner Refresher.
- August 16, 1991 Medical University of South Carolina, Asbestos In Buildings, Asbestos in Buildings, Inspector Refresher
- July 30, 1992 Medical University of South Carolina, Management planning for ACM In Buildings Refresher
- July 30, 1992 Medical University of South Carolina, Inspecting ACM in Buildings Refresher
- January 28, 1993 Medical University of South Carolina, Supervision of Asbestos Abatement Projects Refresher
- August 16, 1993 Asbestos Abatement Associates, Inc. AHERA Building Inspectors Course
- August 23, 1993 OSHA 1910.146 Permit Required confined space entry compliance training
- February 19, 1992 Asbestos Abatement Associates, Inc. AHERA Supervisor Training Refresher
- March 19, 1993 Asbestos Abatement Associates, Inc., Field Sampling strategy Supplement to NIOSH 582
- March 19, 1993 Asbestos Abatement Associates, Inc. Sampling and Evaluating Airborne Asbestos Dust. NIOSH 582, Revision # 3.
- February 16, 1994 Asbestos Abatement Associates, Inc., AHERA Supervisor Refresher
- October 12, 1995 Asbestos Abatement Associates, Inc. Inspecting Buildings for ACM Refresher

Education Continued:

March 7, 1990	AIICRA Supervisor Refresher Training Course, AAA Env.
June 17-19, 1996	Inspecting For Lead Hazards In Residences, Georgia Tech.
June 20-21, 1996	Lead based Paint Risk Assessment, Georgia Tech.
April 29, 1997	Inspecting for ACM in Buildings Refresher, Medical University of SC
March 12, 1997	AIICRA Supervisor Refresher Training Course, AAA Environmental
June 6, 1997	OSHA 40 Hour Health and Safety Training, Koch Environmental

2.3 Lead Supervisors and Worker –Training Certificates

Lead Abatement Consulting & Training Systems

34851.4508CERTV

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that
Mayro Hidalgo



5 9 0 - 7 0 - 0 2 7 6

2302 Park Lake Drive , Atlanta,GA

has successfully completed an English
40 Hr. Lead Abatement Supervisor Course

17-May-99 TO 21-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies With All EPA, OSHA & HUD Guidelines

Trainer(s): De Starnes

TEST SCORE: 82 % Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

20-May-00



5 / 2 0 / 0 0

Processed By:

Seagull

Since 1971



James F. Stump, Course Sponsor

Certificate Number.....



9 6 0 0 6

Course Number

AT9920

Lead Abatement Consulting & Training Systems

34839.7859CERT/

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that
Jose A. Bolteada



5 2 4 - 1 9 - 5 7 6 9

2224 Plaster Road , Atlanta,GA

has successfully completed an English
16 Hr. Lead Abatement Worker Course

15-May-99 TO 16-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies with OSHA & HUD Guidelines

Trainer(s): Charles Patterson

Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

15-May-00

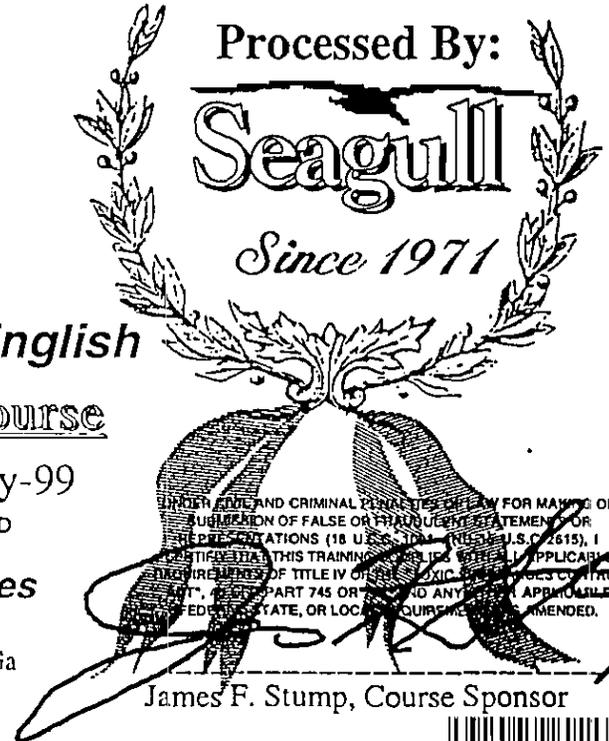


5 / 1 5 / 0 0

Processed By:

Seagull

Since 1971



WHOLE AND CRIMINAL PENALTIES MAY APPLY FOR MAKING OR SUBMISSION OF FALSE OR FRAUDULENT STATEMENTS OR REPRESENTATIONS (18 U.S.C. 1001 AND 18 U.S.C. 1615), I CERTIFY THAT THIS TRAINING COURSE IS IN FULL COMPLIANCE WITH THE REQUIREMENTS OF TITLE IV OF THE FEDERAL TOXIC SUBSTANCE CONTROL ACT, 15 C.F.R. PART 745 OR ANY AND ANY OTHER FEDERAL, STATE, OR LOCAL COURSE REQUIREMENTS RECOMMENDED.

James F. Stump, Course Sponsor

Certificate Number.....  9 5 8 4 3

Course Number AT9919

Lead Abatement Consulting & Training Systems

34839.7854CERT/

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that
Luis Hernandez E.



3 1 4 - 9 1 - 7 3 8 8

2224 Plaster Road , Atlanta,GA

has successfully completed an English
16 Hr. Lead Abatement Worker Course

15-May-99 TO 16-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies with OSHA & HUD Guidelines

Trainer(s): Charles Patterson

Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

15-May-00



5 / 1 5 / 0 0

Processed By:

Seagull

Since 1971

UNDER CIVIL AND CRIMINAL PENALTIES OF LAW FOR MAKING OR SUBMISSION OF FALSE OR FRAUDULENT STATEMENTS OR REPRESENTATIONS (18 U.S.C. 1001 AND 18 U.S.C. 2615), I CERTIFY THAT THIS TRAINING CERTIFICATE APPLICABLE TO THE REQUIREMENTS OF TITLE IV OF THE FEDERAL TOXIC SUBSTANCE CONTROL ACT, PART 745 OR ANY AND ANY STATE, FEDERAL, STATE, OR LOCAL REQUIREMENTS IS UNREVOKED.

James F. Stump, Course Sponsor

Certificate Number.....



9 5 8 3 8

Course Number

AT9919

Lead Abatement Consulting & Training Systems

34839.7852CERT/

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that
Luis Manuel Hidalgo



5 8 8 - 4 3 - 8 9 2 1

2930 Market Ct . Snellville,GA

has successfully completed an English
16 Hr. Lead Abatement Worker Course

15-May-99 TO 16-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies with OSHA & HUD Guidelines

Trainer(s): Charles Patterson

Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

15-May-00



5 / 1 5 / 0 0

Processed By:

Seagull

Since 1971

UNDER PENALTY AND CRIMINAL SANCTIONS OF THE LAW FOR MAKING OR
SUBMISSION OF FALSE OR FRAUDULENT STATEMENTS OR
REPRESENTATIONS (18 U.S.C. 1001 AND 18 U.S.C. 2815), I
CERTIFY THAT THIS TRAINING CERTIFICATE IS APPLICABLE
TO THE REQUIREMENTS OF TITLE IV OF THE FEDERAL TOXIC SUBSTANCES CONTROL
ACT, 42 U.S.C. PART 745 OR TO ANY OTHER APPLICABLE
FEDERAL, STATE, OR LOCAL REQUIREMENTS AS AMENDED.

James F. Stump, Course Sponsor

Certificate Number.....



9 5 8 3 6

Course Number

AT9919

Lead Abatement Consulting & Training Systems

34839.7846CERT/

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that
Vincente Hormiga



4 7 2 - 8 7 - 2 3 6 5

2224 Plaster Road , Atlanta,GA

has successfully completed an English
16 Hr. Lead Abatement Worker Course

15-May-99 TO 16-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies with OSHA & HUD Guidelines

Trainer(s): Charles Patterson

Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

15-May-00



5 / 1 5 / 0 0

Processed By:

Seagull

Since 1971

UNDER CIVIL AND CRIMINAL PENALTIES OF LAW FOR MAKING OR
SUBMISSION OF FALSE OR FRAUDULENT STATEMENTS OR
REPRESENTATIONS (18 U.S.C. 1001 & 18 U.S.C. 2615), I
CERTIFY THAT THIS TRAINING COURSE IS IN FULL COMPLIANCE
WITH THE REQUIREMENTS OF TITLE IV OF THE FEDERAL TOXIC SUBSTANCES CONTROL
ACT, 42 U.S.C. PART 745 OR ANY AND ALL OTHER APPLICABLE
FEDERAL, STATE, OR LOCAL REQUIREMENTS AS AMENDED.

James F. Stump, Course Sponsor

Certificate Number.....



9 5 8 2 9

Course Number

AT9919

Lead Abatement Consulting & Training Systems

34839.7866CERT/

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that

Abraham Gonzalez Santo



5 1 4 - 8 3 - 9 0 3 0

2224 Plaster Road , Atlanta,GA

has successfully completed an English
16 Hr. Lead Abatement Worker Course

15-May-99 TO 16-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies with OSHA & HUD Guidelines

Trainer(s): Charles Patterson

Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

15-May-00



5 / 1 5 / 0 0

Processed By:

Seagull

Since 1971

INDICATE AND CRIMINAL PENALTIES OF LAW FOR MAKING OR SUBMISSION OF FALSE OR FRAUDULENT STATEMENT FOR REPRESENTATIONS (18 U.S.C. 1014) AND FOR U.S.C. 2015), I CERTIFY THAT THIS TRAINING COMPLIES WITH ALL APPLICABLE REQUIREMENTS OF TITLE IV OF THE FEDERAL TOXIC SUBSTANCE CONTROL ACT*, AND PART 745 OF THE FEDERAL REGISTER, AS APPLICABLE FEDERAL, STATE, OR LOCAL REQUIREMENTS AS AMENDED.

James F. Stump, Course Sponsor

Certificate Number.....



9 5 8 4 9

Course Number

AT9919

Lead Abatement Consulting & Training Systems

34839.7856CERT/

900 N.W. 5TH Avenue, Fort Lauderdale, Florida 33311 (954) 524-7208

This is to Certify that
Jose' Gonzalez S.



2224 Plaster Road , Atlanta,GA

has successfully completed an English
16 Hr. Lead Abatement Worker Course

15-May-99 TO 16-May-99

OHIO LEAD TRAINING PROVIDER NO. 0203 / VA APPROVED

Complies with OSHA & HUD Guidelines

Trainer(s): Charles Patterson

Training Address: 2759 Chamblee-Tucker Road,Atlanta,Ga

Student had passed the course test & hands-on assessment

This Certificate Expires

15-May-00



Processed By:

Seagull

Since 1971



James F. Stump, Course Sponsor

Certificate Number.....



Course Number

AT9919

159-102-0405-0 SEND PG 1 03 01 LABCORP 06-10-99 08:21

(FINAL) (T) | Sex | Control # | Patient ID | Phys ID
DALGO, MAYRO | MALE | 151348802343 | | BULLIVAN

| Fasting |
02/25/99 | NO | Account #: 39806035 843-571-4
EMERGICARE OF WEST ASHLEY
| Tot Vol | 2049 SAVANNAH HWY
| CHARLESTON , SC 29407-

LEAD ADULT SERUM

CD- 51348802343

Spec Date 06/08/99 Time 09:30 | Rcvd 06/08/99 | Rpt'd 06/10/99 Time 08:21 | Seq# 3

Test	Result	Flag	Units	Reference Interval
Lead, Blood (Adult)	3		mcg/dL	0 - 19
			Environmental Exposure:	
			WHO	<20 mcg/dL
			Occupational Exposure:	
			OSHA Lead Std	40 mcg/dL
			BEI	30 mcg/dL
			Defection Limit =	1 mcg/dL

LAB: BN LABCORP BURLINGTON DIRECTOR: FRANK HANCOCK MD DI
1447 YORK COURT BURLINGTON, NC 27215-2230

DIRECTOR: WILLIAM B CRYMES MD
IF YOU HAVE ANY QUESTIONS CONTACT - BRANCH: 800-476-0747 LAB: 843-763-0588
LAST PAGE OF REPORT



ITEM NO. 3097656
LABORATORY INFORMATION, NC 12214 2300
HORIZON REPORT FORM #1
RV. 5/85
APR 1998

Patient: Hidalgo, Mayro Address: 2930 Market Ct Employer: Marcor Environmental Services Contact: Denise Patterson
 SSN: 590-70-0276 Address: 1600 Roswell St, Ste 9 Role:
 02/25/99 SNELLVILLE, GA 30078 SMYRNA, GA 30080 Phone: (770) 319-6556 Ext.
 J: M Phone: (770) 972-3757 Auth. by: Fax: (770) 319-7479

PATIENT HISTORY	IMPAIRMENT HISTORY	REVIEW OF SYSTEMS
Y <input checked="" type="checkbox"/> Have you ever been off work for more than one day due to job-related illness or injury? Y <input checked="" type="checkbox"/> Have you ever been hospitalized? PERSONAL HABITS Y <input checked="" type="checkbox"/> Do you smoke cigarettes now? _____ Packs per day _____ Years Y <input checked="" type="checkbox"/> Do you use chewing tobacco or snuff? _____ Times per day _____ Years Y <input checked="" type="checkbox"/> Do you drink alcohol? _____ Drinks per week MEDICATIONS Y <input checked="" type="checkbox"/> Do you take prescription medication? List: _____ Y <input checked="" type="checkbox"/> Do you take over-the-counter medication? List: _____ FAMILY HISTORY Y <input checked="" type="checkbox"/> Serious heart disease before the age of 60? Y <input checked="" type="checkbox"/> Diabetes in the immediate family? The above answers are true and correct to the best of my knowledge and belief. I understand that falsification may be grounds for termination. This also authorizes release of any medical information, concerning my past or present condition pertinent to my employment, by the physicians and staff administering this examination. Applicant's Signature: <u>[Signature]</u> Date: <u>11-03-1998</u>	Do you have: Y <input checked="" type="checkbox"/> Loss of vision in either eye that cannot be corrected? Y <input checked="" type="checkbox"/> Loss of hearing that requires a hearing aid? Y <input checked="" type="checkbox"/> Decreased function in either hand including grip and strength and the use of all fingers? Y <input checked="" type="checkbox"/> Decreased function in neck or lower back? Y <input checked="" type="checkbox"/> Decreased function in hips, knees, legs, ankles or feet? Y <input checked="" type="checkbox"/> Permanent defect from illness, disease, or injury Y <input checked="" type="checkbox"/> Any other nervous disorders; if yes, explain: _____ Y <input checked="" type="checkbox"/> Are you suffering from another disease; if yes, explain: _____ Impairments that would interfere with your ability to: Y <input checked="" type="checkbox"/> Work around or operate dangerous machinery Y <input checked="" type="checkbox"/> Drive company vehicles on public highways	Have you ever had or been told you had: Y <input checked="" type="checkbox"/> decreased vision in either eye Y <input checked="" type="checkbox"/> carpal tunnel syndrome Y <input checked="" type="checkbox"/> depression or other mental conditions Y <input checked="" type="checkbox"/> diabetes Y <input checked="" type="checkbox"/> epilepsy, seizure, fits, convulsions Y <input checked="" type="checkbox"/> fainting spells Y <input checked="" type="checkbox"/> gastrointestinal ulcer/ nervous stomach Y <input checked="" type="checkbox"/> gonorrhea Y <input checked="" type="checkbox"/> head or spinal injuries Y <input checked="" type="checkbox"/> heart disease/rheumatic fever Y <input checked="" type="checkbox"/> hernia Y <input checked="" type="checkbox"/> high blood pressure Y <input checked="" type="checkbox"/> kidney disease Y <input checked="" type="checkbox"/> lung problems/asthma Y <input checked="" type="checkbox"/> musculo-skeletal problems Y <input checked="" type="checkbox"/> neurological problems Y <input checked="" type="checkbox"/> psychiatric problems/nervous disorder Y <input checked="" type="checkbox"/> sleep disorders Y <input checked="" type="checkbox"/> surgery Y <input checked="" type="checkbox"/> syphilis Y <input checked="" type="checkbox"/> tuberculosis

Comments: _____

PHYSICAL EXAM

General Appearance: Good _____ Fair _____ Poor _____
 Height: 5'8" Weight: 190 Temperature: 98.5
 B/P: 120/80 Pulse: 104
 of ex) B/P: 128/84 Pulse: 94

System	Examined	Findings	System	Examined	Findings
Eyes	<input checked="" type="checkbox"/> NL AB	Lungs	<input checked="" type="checkbox"/> NL AB	Hernia	<input checked="" type="checkbox"/> Y
Canal Clear	<input checked="" type="checkbox"/> NL AB	Hearing	<input checked="" type="checkbox"/> NL AB	Umbilical	<input checked="" type="checkbox"/> Y
TM Visualized	<input checked="" type="checkbox"/> NL AB	Rhythm	<input checked="" type="checkbox"/> NL AB	Inguinal	<input checked="" type="checkbox"/> Y
Nose	<input checked="" type="checkbox"/> NL AB	Auscultation	<input checked="" type="checkbox"/> NL AB	Femoral	<input checked="" type="checkbox"/> Y
Teeth	<input checked="" type="checkbox"/> NL AB	If organ disease present, fully compensated?	<input checked="" type="checkbox"/> N Y	Varicocele	<input checked="" type="checkbox"/> Y
Throat	<input checked="" type="checkbox"/> NL AB	Abdomen	<input checked="" type="checkbox"/> NL AB	Urethral Discharge	<input checked="" type="checkbox"/> Y
Skin	<input checked="" type="checkbox"/> NL AB	Is a truss worn?	<input checked="" type="checkbox"/> Y	Upper Extremity	<input checked="" type="checkbox"/> NL AB
Neck	<input checked="" type="checkbox"/> NL AB	Tenderness	<input checked="" type="checkbox"/> Y	Hands/Fingers	<input checked="" type="checkbox"/> NL AB
Thyroid	<input checked="" type="checkbox"/> NL AB	Abd. surg. scar	<input checked="" type="checkbox"/> Y	Legs	<input checked="" type="checkbox"/> NL AB
Chest Wall	<input checked="" type="checkbox"/> NL AB			Knees	<input checked="" type="checkbox"/> NL AB

Visual Fields: 90/40 Depth Perception: NL AB
 Hearing to forced whisper @ 5 feet: 5/5
 Reflexes: POS
 Rnomburg POS: NEG
 Pupillary: Rt AB Lt AB
 Accom.: Rt AB Lt AB
 Biceps: Rt AB Lt AB
 Knee: Rt AB Lt AB
 Ankle: Rt AB Lt AB

ANCILLARY STUDIES

Urinalysis: 1-005
 Spec. Gravity: 1.005
 Albumin: neg
 Sugar: neg
 Ketones: neg
 Blood: neg

EKG: NL AB See Results
 Comments: _____
 Lumbar X-Ray: NL AB See Results
 Comments: _____
 Chest X-Ray: NL AB See Results
 Comments: _____

Audio (if Audiometer used):
 500 _____ 1000 _____ 2000 _____ 4000 _____ 6000 _____
 Blood analysis: NL AB See Results
 Comments: _____
 HPE: NL AB See Results
 Comments: _____

**Concentra Medical Centers
 MEDICAL EXAMINER'S CERTIFICATE**
 I certify that I have examined
Mayro Hidalgo

In accordance with the Federal Motor Carrier Safety Regulations (49 CFR 391.41 through 391.49) and with knowledge of heavier duties, I find him/her qualified under the regulations.

Qualified only when wearing corrective lenses.
 Medically unqualified unless accompanied by a _____ waiver
 Qualified only when wearing a hearing aid.
 Qualified by operation of 49 CFR 391.91
 Medically unqualified unless driving within an Intra-zone

04-881-1155 6426 GA.
 Driver's Phone Number State / License Number
11/3/98 Tom Howell MD
 Date Name / Title of Medical Examiner
11/3/2000 Tom Howell
 Date Signature of Medical Examiner
[Signature]
 Address of Driver: 5110 Robert Ct Snellville GA 30078

CONTROLLED SUBSTANCE TESTING
 Y N Controlled substance test performed

PHYSICAL CLASSIFICATION
 Y N Able to perform essential functions as listed
 List failed essential function(s): _____

Y N Medical restrictions are indicated
 List medical restriction(s): _____

Y N Recommend further evaluation

Signature: Tom Howell MD Date: 11/3/98

Concentra Medical Centers

6475 Jimmy Carter Boulevard Suite 200 NORCROSS, GA 30071
Phone: (770) 242-7744 Fax: (770) 368-0164

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYEE)

Service Date: 5/21/99

Employee Name: Bolteada, Jose A.

Employee SSN: 524-19-5769

Address: 2224 Plaster Rd

ATLANTA GA 30345

Employer: Cape Environmental Management

You were evaluated in this office of your medical status related to your physical capability to wear a respirator. (Check one that applies)

- There were no abnormal findings that would hamper your ability to perform your job duties while wearing a respirator.
- The abnormal findings listed below were not related to wearing a respirator but should be reported to your personal physician for further evaluation.

Based upon the results of this evaluation it is my opinion that you: (Check ALL that apply)

- ARE qualified to wear a respirator.
- I have the following restrictions concerning respirator usage: _____
- ARE NOT qualified to wear a respirator.
- I require further testing by your private physician who must submit a written report of his/her findings to Concentra Medical Centers so that a final decision on your ability to wear a respirator can be made.
- Must wear Special prescription eye-wear needed to accommodate respirator.
- Must use an Eye glass conversion kit.
- May need to shave Facial hair to assure tight seal on certain face masks.
- Need to stop smoking.

(Check ALL that apply)

- The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Respirators must be properly selected based on the containment and concentration levels to which the worker will be exposed. Failure to follow the use and fitting instruction and warnings for proper use contained on the respirator packaging and/or failure to wear the respirator during all times of exposure can reduce the respirator's effectiveness and result in sickness or death. Wearer must be trained in the proper care of any respirator. Refer to product literature and packaging for specific information regarding fit, use and/or limitations.

[Signature]
PLHCP Signature

SEFF Dutton MD
PLHCP Name (printed)

¹Physician or other Licensed Healthcare Professional

[Signature]
Employee's Signature
5/21/2000
Expiration Date

To be maintained in the employee's file with a copy to the employee



HEALTH RESOURCES

600 West Cummings Park, Suite 3400
 Woburn, Massachusetts 01801-6350
 Phone: (781) 935 - 8581; (800) 350 - 4511
 Fax: (781) 938 - 4678

Surveillance Examination Medical Release For Job Placement

Employee's Name: Hernandez, Luis
 Social Security No: 314-91-7388
 Company: Marcor
 Company Branch: 2742 - Georgia
 Date Of Exam: 28 December 1998
 Exam Location: Concentra Medical Center Atlanta, GA

Medical Surveillance Exam:

Asbestos Hazmat Deleading Other

Initial Periodic Exit Other

I have reviewed the examination of the above named individual per OSHA regulations and in my opinion:

- I have not detected any medical condition which would place the employee at increased risk of health impairment from work.
- I have detected a medical condition which would place an employee at increased risk of health impairment from work in the proposed job assignment.
- I have limited the employee's assigned work. Recommended limitations are:

- In evaluating the employee, it was determined that the employee is probably fit for work, but laboratory abnormalities were noted which require follow-up before fitness can be determined.
- As part of this evaluation, Blood Lead and Zinc Protoporphyrin testing were performed at an OSHA-CDC approved laboratory. Results were within Normal Limits.
- Other:

I have informed the employee of the results of the examination and any medical conditions which require further examination or treatment.

For asbestos examinations: The above employee has been informed of the health risks associated with smoking and asbestos exposure.

Tom Hinters M.D.

x

Tom Hinters

01/04/99

Authorized Physician

Signature

Date

HEALTH RESOURCES

600 West Cummings Park, Suite 3400
Woburn, Massachusetts 01801-6350
Phone: (781) 935 - 8581; (800) 350 - 4511
Fax: (781) 938 - 4678

Certificate For Respirator Use 29 CFR 1910.134

Employee's Name: Hernandez, Luis
Social Security No: 314-91-7388
Company: Marcor
Company Branch: 2742 - Georgia
Date Of Exam: 28 December 1998
Exam Location: Concentra Medical Center Atlanta, GA

I have examined the above named individual and I certify that this employee:

is physically capable is not physically capable

of using a negative pressure, air supplied respirator and/or powered air purifying respirator subject to the following restrictions:

Respirator use should be limited to air supplied or powered air purifying respirators.
(positive pressure)

No respirator use if wheezing and shortness of breath are evident.

Comments:

Note: Prescription eyeglasses, contact lenses or beards cannot be worn with all types of respirators. Any interference with a face-to-face pieces seal is not acceptable. Contact lenses cannot be worn with any supplied air respirator. General safety recommendations indicate that contact lenses should not be worn in areas where there may be a likelihood of chemical splashes.

Tom Winters M.D.

Authorized Examiner

x



Signature

01/04/99

Date

Physical Exam

Name: Hidalgo, Luis

SSN: 588-43-8921

Date: 04/22/99

Examination Results

Able to perform essential functions as listed.

Unable to perform all essential functions as listed. Please list failed essential function(s):

No medical restrictions are indicated.

The following medical restrictions are indicated:

Recommend further evaluation.

Remarks:

JACK D. SHERRER, JR., M.D.

Physician Print Name Here

Physician's Signature

Concentra Medical Centers

6475 Jimmy Carter Boulevard Suite 200 NORCROSS, GA 30071
Phone: (770) 242-7744 Fax: (770) 368-0164

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYEE)

Service Date: 5/21/99

Employee Name: Hormiga, Vincente

Employee SSN: 472-87-2365

Address: 2224 Plaster Rd

ATLANTA

GA

30345

Employer: Cape Environmental Management

You were evaluated in this office of your medical status related to your physical capability to wear a respirator. (Check one that applies)

- There were no abnormal findings that would hamper your ability to perform your job duties while wearing a respirator.
 The abnormal findings listed below were not related to wearing a respirator but should be reported to your personal physician for further evaluation.

Based upon the results of this evaluation it is my opinion that you: (Check ALL that apply)

- ARE qualified to wear a respirator.
 Have the following restrictions concerning respirator usage: _____
 ARE NOT qualified to wear a respirator.
Require further testing by your private physician who must submit a written report of his/her findings to Concentra Medical Centers so that a final decision on your ability to wear a respirator can be made.
Must wear Special prescription eye-wear needed to accommodate respirator.
 Must use an Eye glass conversion kit.
 May need to shave Facial hair to assure tight seal on certain face masks.
 Need to stop smoking.

(Check ALL that apply)

- The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
 The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
 In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Respirators must be properly selected based on the containment and concentration levels to which the worker will be exposed. Failure to follow the use and fitting instruction and warnings for proper use contained on the respirator packaging and/or failure to wear the respirator during all times of exposure can reduce the respirator's effectiveness and result in sickness or death. Wearer must be trained in the proper care of any respirator. Refer to product literature and packaging for specific information regarding fit, use and/or limitations.

Jeff Dutton MD

PLHCP Signature

Jeff Dutton MD

ICP Name (printed)

Physician or other Licensed Healthcare Professional

Vincente Hormiga
Employee's Signature

5/21/2000

Expiration Date

To be maintained in the employee's file with a copy to the employee

Medical Surveillance - Asbestos

Patient: Hormiga, Vincente
SSN: 472-87-2365
DOB: 07/19/66
Gender: M
Marital Status: M
Address: 2224 Plaster Rd
ATLANTA, GA 30345
Home Phone: (404) 325-8939
Work Phone: _____ Ext.: _____

Job Title: _____
Employer: Cape Environmental Management
Address: 2302 Parklane Dr Suite 200
ATLANTA, GA 30345
Job Contact: Juan Hernandez
Role: _____
Phone: (770) 908-7200 Ext.: _____
Fax: (770) 908-7219
Race: ASIAN BLACK HISPANIC INDIAN WHITE OTHER

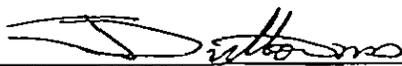
The above individual was seen on 05/21/99 in accordance with: _____ 29 CFR 1926.1101.
_____ 40 CFR 763.121.

The following was performed:

- Completion and review of the standardized medical questionnaire and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems per Appendix D in 1926.1101.
- Review of the employer's description of: this employee's duties as they relate to the employee's exposure, the employee's representative or anticipated exposure level, and personal protection equipment to be utilized by the employee.
- Review of information from previous medical examinations if available.
- A physical examination with emphasis upon the pulmonary, cardiovascular, and gastrointestinal systems.
- A pulmonary function test of forced vital capacity (FVC) and forced expiratory volume at one second (FEV 1) in accordance with NIOSH and ATS standards.
- A chest roentgenogram, posterior-anterior, 14x17 inches (or current film on file) with interpretation in accordance with 29 CFR 1926.1101. (M)(2)(ii)(C).
- NOTE: According to 29 CFR 1926.1101 (M)(2)(ii)(C), it is up to the discretion of the physician whether or not a chest X-ray is required.
- The employee was informed by the physician of the results of the exam and of any medical conditions that may result from asbestos exposure including the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure.

Unless otherwise noted below, this evaluation indicates that there are no detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to asbestos, and there are no recommended limitations on the employee concerning the use of personal protective equipment or respirator.

Comments or limitations (if any): _____



Provider Signature

5/24/99

Date



HEALTH RESOURCES

600 West Cummings Park, Suite 3400
Woburn, Massachusetts 01801-6350
Phone: (781) 935 - 8581; (800) 350 - 4511
Fax: (781) 938 - 4678

Certificate For Respirator Use 29 CFR 1910.134

Employee's Name: Gonzales, Abraham
Social Security No: 514-83-9030
Company: Marcor
Company Branch: 2742 - Georgia
Date Of Exam: 28 December 1998
Exam Location: Concentra Medical Center Atlanta, GA

I have examined the above named individual and I certify that this employee:

is physically capable is not physically capable

of using a negative pressure, air supplied respirator and/or powered air purifying respirator subject to the following restrictions:

- Respirator use should be limited to air supplied or powered air purifying respirators. (positive pressure)
- No respirator use if wheezing and shortness of breath are evident.

Comments:

Note: Prescription eyeglasses, contact lenses or beards cannot be worn with all types of respirators. Any interference with a face-to-face pieces seal is not acceptable. Contact lenses cannot be worn with any supplied air respirator. General safety recommendations indicate that contact lenses should not be worn in areas where there may be a likelihood of chemical splashes.

Tom Winters M.D.
Authorized Examiner

Signature

01/04/99
Date

HEALTH RESOURCES

600 West Cummings Park, Suite 3400
Woburn, Massachusetts 01801-6350
Phone: (781) 935 - 8581; (800) 350 - 4511
Fax: (781) 938 - 4678

Surveillance Examination Medical Release For Job Placement

Employee's Name: Gonzales, Abraham
Social Security No: 514-83-9030
Company: Marcor
Company Branch: 2742 - Georgia
Date Of Exam: 28 December 1998
Exam Location: Concentra Medical Center Atlanta, GA

Medical Surveillance Exam.

- Asbestos Hazmat Deleading Other _____
- Initial Periodic Exit Other _____

I have reviewed the examination of the above named individual per OSHA regulations and in my opinion:

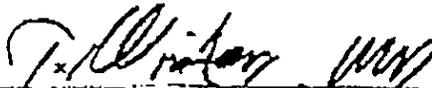
- I have not detected any medical condition which would place the employee at increased risk of health impairment from work.
- I have detected a medical condition which would place an employee at increased risk of health impairment from work in the proposed job assignment.
- I have limited the employee's assigned work. Recommended limitations are:

- In evaluating the employee, it was determined that the employee is probably fit for work, but laboratory abnormalities were noted which require follow-up before fitness can be determined.
- As part of this evaluation, Blood Lead and Zinc Protoporphyrin testing were performed at an OSHA-CDC approved laboratory. Results were within Normal Limits.
- Other:

I have informed the employee of the results of the examination and any medical conditions which require further examination or treatment.

For asbestos examinations: The above employee has been informed of the health risks associated with smoking and asbestos exposure.

Tom Winters M.D.



01/04/99

Authorized Physician

Signature

Date

TOTR P.03

HEALTH RESOURCES

600 West Cummings Park, Suite 3400
Woburn, Massachusetts 01801-6350
Phone: (781) 935 - 8581; (800) 350 - 4511
Fax: (781) 938 - 4678

Certificate For Respirator Use 29 CFR 1910.134

Employee's Name: JOSE GONZALEZ
Social Security No: 531-66- 3554
Company: _____
Company Branch: 2742 - Georgia
Date Of Exam: 28 December 1998
Exam Location: Concentra Medical Center Atlanta, GA

I have examined the above named individual and I certify that this employee:

is physically capable is not physically capable

of using a negative pressure, air supplied respirator and/or powered air purifying respirator subject to the following restrictions:

- Respirator use should be limited to air supplied or powered air purifying respirators. (positive pressure)
- No respirator use if wheezing and shortness of breath are evident.

Comments:

Note: Prescription eyeglasses, contact lenses or beards cannot be worn with all types of respirators. Any interference with a face-to-face pieces seal is not acceptable. Contact lenses cannot be worn with any supplied air respirator. General safety recommendations indicate that contact lenses should not be worn in areas where there may be a likelihood of chemical splashes.

Tom Hinters M.D.
Authorized Examiner



Signature

01/04/99
Date

Concentra Medical Centers

6475 Jimmy Carter Boulevard Suite 200 NORCROSS, GA 30071
Phone: (770) 242-7744 Fax: (770) 368-0164

PLHCP¹ WRITTEN STATEMENT for RESPIRATORS (EMPLOYEE)

Issue Date: 5/21/99

Employee Name: _____

Employee SSN: 531-66-3545

Gonzalez, Jose S.

Address: _____

2224 Piaster Rd

LAWRENCEVILLE GA 30045

Employer: Cape Environmental Management

You were evaluated in this office of your medical status related to your physical capability to wear a respirator. (Check one that applies)

- There were no abnormal findings that would hamper your ability to perform your job duties while wearing a respirator.
- The abnormal findings listed below were not related to wearing a respirator but should be reported to your personal physician for further evaluation.

Based upon the results of this evaluation it is my opinion that you: (Check ALL that apply)

- ARE qualified to wear a respirator.
- Have the following restrictions concerning respirator usage: _____
- ARE NOT qualified to wear a respirator.
- Require further testing by your private physician who must submit a written report of his/her findings to Concentra Medical Centers so that a final decision on your ability to wear a respirator can be made.
- Must wear Special prescription eye-wear needed to accommodate respirator.
- Must use an Eye glass conversion kit.
- May need to shave Facial hair to assure tight seal on certain face masks.
- Need to stop smoking.

(Check ALL that apply)

- The above individual HAS been examined for respirator fitness in accordance with 29 CFR 1910.134. This limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- The above individual HAS NOT been examined by me for respirator fitness. The employee's medical evaluation consisted of a review of OSHA's Medical Evaluation Questionnaire in Appendix C Part A Section 2. In accordance with 29 CFR 1910.134, this limited evaluation is specific to respirator use only. Employees should be instructed to report any difficulties in using respirators or change of any physical status to their supervisor or physician. This evaluation included the Respiratory Questionnaire outlined in 29 CFR 1910.134.
- In accordance with specific OSHA requirements, I have informed the above named individual of the results of this evaluation and of any medical conditions resulting from exposures that may require further explanation or treatment. Where applicable, the above named individual has been informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos, lead and/or other chemical exposure(s).

Respirators must be properly selected based on the containment and concentration levels to which the worker will be exposed. Failure to follow the use and fitting instruction and warnings for proper use contained on the respirator packaging and/or failure to wear the respirator during all times of exposure can reduce the respirator's effectiveness and result in sickness or death. Wearer must be trained in the proper care of any respirator. Refer to product literature and packaging for specific information regarding fit, use and/or limitations.

Jeff Dutton MD
PLHCP Signature

Jeff Dutton MD
CP Name (printed)

Jose Gonzalez S.
Employee's Signature

Expiration Date

Physician or other Licensed Healthcare Professional

To be maintained in the employee's file with a copy to the employee

CAPE
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Respirator Fit Test

Employee Name: Mayro C. Hidalgo

Social Security #: 595-76-0776

Test Date: 5/28/99 Last Date Tested: _____ Next Expected Test Date: 5/100

Test Data

Respirator Manufacturer: _____

Type: _____ Model: _____ Size: medium

Initial Fit OK	YES <input checked="" type="checkbox"/>	NO _____
Successful Negative Pressure Test	YES <input checked="" type="checkbox"/>	NO _____
Successful Positive Pressure Test	YES <input checked="" type="checkbox"/>	NO _____
Successful Irritant Smoke Test	YES <input checked="" type="checkbox"/>	NO _____

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

[Signature]
Employee Signature

[Signature]
Tester's Signature

CAPE
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I N C

Respirator Fit Test

Employee Name: José A. Bolteada

Social Security #: 524-19-5769

Test Date: 05/28/99 Last Date Tested: NA Next Expected Test Date: 5/28/01

Test Data

Respirator Manufacturer: North OV/P100 758.1 P100

Type: 1/2 Face NP Model: 7700-30 Size: M

Initial Fit OK	YES	NO
Successful Negative Pressure Test	YES	NO
Successful Positive Pressure Test	YES	NO
Successful Irritant Smoke Test	YES	NO

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

José A. Bolteada

Employee Signature

Michael D. Shaw

Tester's Signature

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Respirator Fit Test

Employee Name: Loiz Hernandez E

Social Security #: 314-91-7388

Test Date: 05-28-99 Last Date Tested: NA Next Expected Test Date: 05/28/05

Respirator Manufacturer: North Filter OV/P100
Type: 1/2 NP Model: 7700 Size: M

Initial Fit OK YES NO
Successful Negative Pressure Test YES NO
Successful Positive Pressure Test YES NO
Successful Irritant Smoke Test YES NO

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

Loiz Hernandez E.
Employee Signature

Michael D. [Signature]
Tester's Signature

CAPE
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I N C

Respirator Fit Test

Employee Name: Luis Manuel Hidalgo

Social Security #: 589-43-8921

Test Date: 5/28/99 Last Date Tested: NA Next Expected Test Date: 5/28/00

Test Data

Respirator Manufacturer: North 7581 P100 OV/P100

Type: 1/2 NP Model: 7700-30 Size: L

Initial Fit OK	YES <u>✓</u>	NO _____
Successful Negative Pressure Test	YES <u>✓</u>	NO _____
Successful Positive Pressure Test	YES <u>✓</u>	NO _____
Successful Irritant Smoke Test	YES <u>✓</u>	NO _____

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

Luis Manuel Hidalgo
Employee Signature

Michael D. Mount
Tester's Signature

Respirator Fit Test

Employee Name: Vincente Hormiga

Social Security #: 972/87/2365

Test Date: 05/29/99 Last Date Tested: N/A Next Expected Test Date: 5/28/00

Test Data

Respirator Manufacturer: NORIX 7700-30M . . . MIOSH 7581 P100

Type: 1/2 face NP Model: 7700-30m Size: medium

Initial Fit OK YES NO

Successful Negative Pressure Test YES NO

Successful Positive Pressure Test YES NO

Successful Irritant Smoke Test YES NO

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

Vincente Hormiga
Employee Signature

[Signature]
Tester's Signature

Respirator Fit Test

Employee Name: Abraham Gonzalez Santos

Social Security #: 514-38-9030

Test Date: 05/28/00 Last Date Tested: N/A Next Expected Test Date: 5/28/00

Test Data

Respirator Manufacturer: NOVIX 7700-30M NIOSH 7581 P100

Type: 1/2 fac NP Model: 7700-30 Size: Medium

Initial Fit OK	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
Successful Negative Pressure Test	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
Successful Positive Pressure Test	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
Successful Irritant Smoke Test	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

Abraham Gonzalez S.
Employee Signature

[Signature]
Tester's Signature

CAPE
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Respirator Fit Test

Employee Name: Jose Gonzalez S.

Social Security #: 831-66-7554

Test Date: 05/28/99 Last Date Tested: N/A Next Expected Test Date: 5/28/00

Test Data

Respirator Manufacturer: North 7700-30M NIOSH 7581P100

Type: 1/2 face NP Model: 7700-30M Size: medium

Initial Fit OK YES NO

Successful Negative Pressure Test YES NO

Successful Positive Pressure Test YES NO

Successful Irritant Smoke Test YES NO

NOTE: If any answer is "NO", retesting and/or respirator change (manufacturer, model, or size) is in order.

Explain any other tests employed: _____

Jose Gonzalez S.
Employee Signature

[Signature]
Tester's Signature

Section 3

Personal Protection and Engineering Control Equipment

3.1 Respiratory Protection Devices

NORTH MODEL 7780 RESPIRATOR



Model 7780

52470 / SMALL
 # 52471 / MED.
 # 52472 / LRG.

Suitable for use in asbestos concentrations not in excess of 2 fibers/cc TWA and/or 10 fibers/cc EL (10 X PEL).

The Model 7780 Respirator is a half mask air-purifying respirator equipped with N7500-8 high efficiency filter/cartridges.

The North 7700 Series half mask silicone facepiece has become the standard by which all respirators are judged. Put that together with the North high efficiency filter/cartridges, and you have half mask protection that can't be beat.

Its silicone construction readily conforms to facial features and doesn't harden with age. Silicone is easy to clean, and provides a non-stick, no slip surface. It stands up to punishment better than any other facepiece material.

To further promote worker acceptance, the 7780's contoured sealing flange eliminates the discomfort caused by pressure points. And the cradle suspension system won't slip, yet gives an even seal without irritating pressure.

The low profile of the North 7780 gives workers a wide field of vision and room for protective eyewear. Its low inhalation and exhalation resistance make breathing easier, leaving more energy for getting the job done.

All of this, and low maintenance, too. Just unscrew the filter/cartridges and drop the facepiece into the wash. The direct cartridge-to-facepiece seal means no cartridge receptacles to clean and no sealing gaskets to lose or replace. The silicone rubber facepiece can take a lot more cleanings and still come out soft and flexible.

Available in three overlapping sizes, the 7780 delivers secure, comfortable fit to a large number of respirator wearers. A slide/tape presentation on use and fitting instructions is available from North.

The 7700 Series is also NIOSH/MSHA approved for use with combination chemical cartridge and HEPA filters. See filter/cartridge section below for details.

NORTH HEPA FILTER/CARTRIDGES

FOR NIOSH/MSHA Certified Respirators

A high efficiency (HEPA) filter/cartridge is a NIOSH/MSHA certified filter that is at least 99.97 percent efficient against mono-dispersed particles 0.3 micrometers or larger. (#52473)

Model N7500-8 filter/cartridge (TC-21C-152): Approved for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 milligram per cubic meter asbestos and radionuclides.

****Model 9800-8 filter/cartridge (TC-21C-481):** For respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 milligram per cubic meter, asbestos containing dusts and mists, radionuclides and radon daughters.

***Model N7500-81 filter/cartridge (TC-23C-204):** Approved for respiratory protection against: (1) mists or paints, lacquers and enamels, (2) not more than 1,000 parts per million organic vapors by

volume, or (3) any combination thereof, dusts, fumes, and mists having a time-weighted average less than 0.05 milligram per cubic meter asbestos, radionuclides, and radon daughters.

***Model N7500-82 filter/cartridge (TC-23C-207):** Approved for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide and dusts, fumes, and mists having a time-weighted average less than 0.05 milligram per cubic meter asbestos, radionuclides, and radon daughters.

***Model N7500-83 filter/cartridge (TC-23C-210):** Approved for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide and dusts, fumes, and mists having a time-weighted average less than 0.05 milligram per cubic meter asbestos, radionuclides, and radon daughters.

***Model N7500-84 filter/cartridge (TC-23C-213):** Approved for respiratory protection against not more than 300 parts per million ammonia or 100 parts per million methyl amine and dusts, fumes, and mists having a time-weighted average less than 0.05 milligram per cubic meter asbestos, radionuclides, and radon daughters.

* For use with 7600 and 7700 Series respirators only.

** For use with Model 9800 Powered Air-Purifying Respirators only.

NORTH

5500 & 7700 Series

Half Mask Air

Purifying

Respirator

Operating and

Maintenance

Instruction Manual

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NORTH

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Safety Equipment Division
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Cranston, RI 02921-2019
401-943-4400
Cust. Service: 800-581-0444
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North Safety Products
Siebe North Canada Ltd.
26 Dansk Court
Etobicoke Ontario
Canada M9W 5V8
416-675-2810
FAX: 416-675-6898*

1 INTRODUCTION

North Air-Purifying respirators are intended to be used for respiratory protection against hazardous vapors, gases and/or particulate matter, depending on the air-purifying elements used and the contaminant concentration and/or toxicity; but only if there is sufficient oxygen present in the contaminated atmosphere to support life. These respirators are approved by the National Institute of Occupational Safety and Health (NIOSH) and are suitable for use in workplaces regulated by the Occupational Safety and Health Administration (OSHA).

1.1 IMPORTANT INFORMATION

This Operating and Maintenance Instruction Manual contains important information and must be completely read and understood by all persons who may use or maintain this respirator.

This Respirator should be used or maintained only by persons who understand the instructions contained within this manual.

1.1.1 TERMINOLOGY

Warnings, cautions and notes used in this manual have the following significance:

NOTE

Procedures and techniques that are considered important enough to emphasize.

CAUTION

Procedures and techniques which, if not carefully followed, will result in damage to the equipment.

WARNING

Procedures and techniques which, if not carefully followed, will expose the user to the risk of serious injury, illness or death.

1.1.2 GENERAL WARNINGS

WARNINGS

1. Failure to properly select the appropriate respirator for all the contaminants and their concentrations against which protection is required, or a failure to follow North's instructions and warnings, may result in exposure to the hazardous materials, exposing the user to the risk of serious injury, illness or death.
2. Do not use this respirator for protection against air contaminants other than those listed on the air-purifying elements and on the NIOSH Approval Label which is supplied with each respirator and/or replacement air-purifying element.
3. Do not use this respirator under any of the following conditions:
 - While performing or observing abrasive blasting (sandblasting) operations.
 - For fire fighting.
 - In oxygen-deficient atmospheres (any atmosphere having less than 19.5 % oxygen by volume at sea level).
 - In atmospheres where the concentrations of toxic contaminants are unknown, or are Immediately Dangerous to Life or Health (IDLH). An IDLH atmosphere is any atmosphere which has a concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life, which would cause irreversible debilitating effects on health, or which would interfere with the ability to escape from a dangerous atmosphere.
 - In atmospheres where the concentration of the contaminant exceeds the respirator's Maximum Use Concentration. That is, where the concentration of the contaminant exceeds:
 - i. 10 times the contaminant's permissible exposure limit (the maximum permissible 8-hour time weighted average (TWA) concentration) established by applicable OSHA or other government regulations, or by NIOSH or ACGIH publications; or
 - ii. any lower Maximum Use Concentration for that contaminant (when using a half mask air purifying respirator) established by such OSHA or other government regulations (as in the case of asbestos) or NIOSH or ACGIH publications, or shown in the contaminant's Material Safety Data Sheet (MSDS), in a pesticide label, or in the current edition of the North Respirator Selection Guide.
 - In poorly ventilated areas, or confined spaces such as tanks, small rooms, tunnels or vessels, unless the confined space is well ventilated and the concentration of toxic contaminants is known to be, and will continue to be, below the Maximum Use Concentration recommended for the respirator.

⚠ WARNINGS (CONTINUED)

- For protection against gas or vapor contaminants with poor warning properties (irritation, odor or taste) at or below their permissible exposure limit or those which are sensory desensitizers, unless the air-purifying elements are equipped with End-of-Service-Life Indicators; or a cartridge change schedule is implemented based on service data which includes:
 - i. desorption studies (unless the cartridges are changed daily),
 - ii. expected concentration,
 - iii. pattern of use, and
 - iv. duration of exposure;and the contaminant does not have a ceiling limit.
 - For protection against gases or vapors which generate high heats of reaction with the sorbent material in the cartridge.
 - For protection against gases or vapors which are not adsorbed by the sorbent material in the cartridge (e.g. Methanol).
4. Do not use any air purifying respirator when conditions prevent a good facepiece-to-face seal. Examples of such conditions are:
- i. the growth of beards, mustaches or sideburns which will pass between the facepiece sealing area and the face;
 - ii. the use of spectacles, goggles or other devices which interfere with the respirator;
 - iii. the use of head or face coverings which contain materials which will pass between the facepiece sealing area and the face; and
 - iv. missing teeth or dentures, facial deformities or deep scars.
5. Immediately leave the contaminated area if:
- i. breathing becomes difficult;
 - ii. dizziness or other distress occurs;
 - iii. you smell, taste or sense irritation from the contaminants;
 - iv. the air purifying element is equipped with an End-of-Service-Life Indicator which has changed color to indicate expiration, or
 - v. the respirator becomes damaged.

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▲ WARNINGS (CONTINUED)

6. Any air purifying respirator, when properly selected and fitted, will significantly reduce, *but will not completely eliminate*, the breathing of contaminant(s) by the respirator wearer. When working in atmospheres containing substances which are reported to cause cancer in amounts below their permissible exposure limit, you will obtain better protection from a continuous flow or positive pressure air supplied respirator or self-contained breathing apparatus (an SCBA).
7. This respirator does not provide protection to exposed areas of the body. If the contaminated atmosphere contains vapors, gases or airborne particulate matter which may either irritate or burn the eyes or the skin, or can be absorbed by the body through penetration of the skin, the use of specialized eye, hand and/or body coverings may be required for protection.

1.1.3 USER REQUIREMENTS

To use this respirator you must know:

- 1) The contaminants and their concentrations. (Ask your Safety Director or Industrial Hygienist, or follow the hazard determination steps as outlined in paragraph 7.2.2.1 of American National Standards Institute (ANSI) Standard Z88.2-1992, *American National Standard for Respiratory Protection*.)
- 2) That this is the respirator approved for use against those contaminants and at those concentrations. (Carefully read the NIOSH Approval Label Summary booklet included with this facepiece. Make sure the part numbers on the respirator components match the component numbers on the NIOSH Approval Label or on the configuration chart. If you have any doubts, prior to using the respirator consult an Industrial Hygienist, or North Safety Products Customer Service in the United States at 1-800-581-0444 or 1-401-946-0444.)
- 3) That the contaminated atmosphere is not Immediately Dangerous to Life or Health (IDLH). For the definition of IDLH see Warning #3 of the preceding list of General Warnings.
- 4) That this respirator fits you properly. (See Warning #4 of the preceding list of General Warnings.)

- 5) That you do not have any physical limitations or illness which would preclude you from using this respirator or be aggravated by an increase in breathing resistance. (Ask your Safety Director or physician.)

You should not enter any potentially contaminated atmosphere unless you have confirmed all of these factors.

1.1.4 TRAINING PROGRAM

These brief written instructions cannot substitute for a formal Respirator Training Program. Such training should include an opportunity for you to handle the respirator, learn how to inspect it, have it properly fitted, test its facepiece-to-face seal, wear it in normal air for a long familiarity period, and finally, to wear it in a test atmosphere. The Training Program should be based on ANSI Z88.2-1992, and should familiarize you with OSHA Regulation 29CFR Section 1910.134 and other regulations promulgated by various Regulatory Authorities.

1.1.5 FIT TESTING

A respirator should not be assigned to a person unless the person is given a qualitative or quantitative respirator fit test and the results of the test indicate that the facepiece of the respirator fits properly.

This respirator is available in three sizes; large, medium and small. Most faces can be fit with the medium, however person with small faces may get a better fit with the small size, and person with large faces may get a better fit with the large size.

Fit tests should be conducted at least annually and more frequently if there are factors such as weight change or dental surgery which may affect the fit of the respirator.

A fit test adapter is available for conducting quantitative fit tests. (See Accessories.)

Instructions for carrying out qualitative and quantitative respirator fit tests are given in publications such as ANSI Z88.2-1992, and respirator manuals published by government agencies such as NIOSH, ERDA, and NRC.

RESPIRATOR



1.1.6 PERIODIC FIT CHECKS

Each time that the respirator is put on, before entering an area containing hazardous atmospheres, and periodically while wearing the respirator in the contaminated area, the respirator wearer should check the effectiveness of the seal of the facepiece to the wearer's face by carrying out a negative or positive pressure fit check. Instructions for carrying out fit checks on this respirator are given in Section 3 of this manual.

1.2 RESPIRATOR DESCRIPTION

This device is an air-purifying respirator consisting of a half mask facepiece assembly and a pair of replaceable air-purifying elements which provide respiratory protection against hazardous vapors, gases and/or particulate matter, depending upon the type of air-purifying element used.

When the respirator wearer inhales, the contaminated air is drawn through the air-purifying elements, which, depending upon their type, remove the hazardous vapors, gases and/or particulate matter from the air before it enters the lungs. During inhalation, the inhalation valves in the facepiece open and the exhalation valve closes to prevent contaminated air from entering the facepiece. During exhalation, the exhalation valve opens, and the inhalation valves close to prevent exhaled air from passing back through the air-purifying elements.

This respirator is approved by NIOSH to protect against, and reduce exposure to the type of air contaminants specified on the air-purifying elements and in the approval label supplied with the respirator or the air-purifying elements. When assembled with a pre-filter, this respirator is also approved to protect against, and reduce exposure to, additional air contaminants specified in the approval label on the pre-filter package.

2 PRE-USE INSTRUCTIONS

WARNING

The respirator facepiece and air-purifying elements may be sold separately. Do not use this respirator unless the proper air-purifying elements are attached. See the NIOSH Approval label on the back cover of this manual for a list of the approved components, or check with your Safety Director or Industrial Hygienist or North Safety Products Customer Service in the United States at 1-800-581-0444 or 1-401-946-0444.

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2.1 FACEPIECE

Remove the facepiece assembly from its container and visually check the facepiece to make sure that the sealing flange is not distorted, and that all components including the exhalation valve flap are in place, in good condition and secure.

2.2 PRE-FILTERS

If replaceable pre-filters are required, they should be assembled to the cartridges or filter holders before the cartridges or filter holders are attached to the facepiece. Follow the directions on the pre-filter for proper orientation. Place the pre-filters in the appropriate filter covers so that the entire outer edges of the pre-filters are seated evenly and securely against the inner wall of the filter covers. (See Figure 1.)

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Snap the filter covers, with the pre-filters seated evenly and securely, to the cartridge or filter holders. (See Figure 2.)

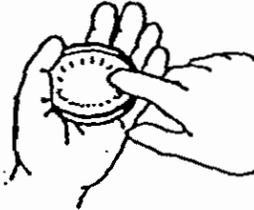


FIGURE 1
Assembling the Pre-Filter



FIGURE 2
Attaching the Cover

2.3 ASSEMBLING THE RESPIRATOR

Assemble the respirator by screwing the two appropriate air-purifying elements onto the inhalation connectors mounted on the facepiece. Check to be sure that each air-purifying element is effectively sealed against the facepiece. (See Figure 3.)



FIGURE 3
Attaching Air-Purifying Elements

After assembling the respirator facepiece and air-purifying elements, inspect the respirator to make certain that the respirator has not been damaged.

CAUTION

A respirator must be inspected by the wearer before and after each use to insure that it is in good working condition.

3 TO PUT ON THE RESPIRATOR

The following should be performed in an area with uncontaminated air.

- 1) Remove your eyewear (if worn), then grasp the front of the respirator with one hand and the upper headband with your other hand. Then place the portion of the facepiece containing the exhalation valve under your chin. (See Figure 4.)



FIGURE 4
Putting on the Respirator

- 2) Position the narrow portion of the respirator on your nose bridge and place the cradle suspension system on your head so that the top headband rests across the top of your head and the bottom headband rests above your ears, on the back of your head. Then hook the bottom headband behind your neck, below your ears, and adjust the position of the facepiece on your face for best fit and comfort. (See Figure 5.)



FIGURE 5
Hooking the Bottom Headband

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- 3) The length of the headbands are adjustable; tighten or loosen by holding the respirator body or headband yoke with one hand and pulling on the elastic material in the appropriate direction with your other hand. (See Figure 6.)

NOTE

For a comfortable fit, the headbands must be adjusted equally on both sides of the respirator.



FIGURE 6
Adjusting the Facepiece

- 4) Position the facepiece so that the nose section rests as low on the bridge of your nose as is comfortable, and tighten the upper headband on both sides just tight enough so that the respirator doesn't slide down on your nose. Do not over tighten. If the respirator pinches your nose, loosen the upper headband slightly. (See Figure 7.)

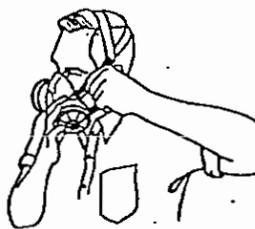


FIGURE 7
Adjusting the Upper Headband

- 5) Then, tighten the lower headband on both sides just tight enough to secure the respirator under your chin. (See Figure 8.)



FIGURE 8
Adjusting the Lower Headband

NOTE

For proper positioning and comfort, the upper headband must be adjusted first, then the lower headband must be adjusted.

- 6) If you previously removed your eyewear, put it back on at this time.
- 7) Conduct a positive or negative fit check as follows:

To conduct a negative pressure fit check, place the palms of your hands over the openings in the cartridges or fit check/filter covers (if so equipped) or, unscrew the air-purifying elements from the respirator and place the palms of your hands over the inhalation connectors, inhale and hold your breath for about 5 seconds. If the facepiece collapses slightly and no air leaks between the facepiece and your face are detected, an effective fit has been obtained. If air leaks are detected, reposition the facepiece on your face and/or readjust the tension of the headbands and repeat the negative pressure check until an effective seal is obtained. If the air-purifying elements were removed, once an effective facepiece-to-face seal is obtained, a co-worker or a representative of the Safety or Industrial Hygiene Department must assist you by screwing the air-purifying elements onto the inhalation con-

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nectors mounted on the facepiece. (This must be done without removing the facepiece from your face.) Check to be sure that each air-purifying element is effectively sealed against the facepiece. (See Figure 9.)



FIGURE 9
Negative Pressure Fit Check

To conduct a positive pressure fit check, block the openings in the exhalation valve guard using the palm of your hand and simultaneously exhale. If the facepiece bulges slightly and no air leaks between the facepiece and your face are detected, an effective fit has been obtained. If air is detected to be leaking out between the facepiece and your face, reposition the facepiece on your face and/or readjust the tension of the headbands to eliminate the leakage. This check must be repeated until an effective seal of the facepiece to your face is obtained. (See Figure 10.)



FIGURE 10
Positive Pressure Fit Check

4 USE

WARNING

If the air-purifying elements have End-Of-Service-Life Indicators, you must be able to see the End-of-Service-Life Indicators while wearing the respirator.

If you cannot see the indicators, do not use the respirator because you will not know when the cartridge has expired. Should this occur, and you remain in the contaminated work area, you risk exposure to hazardous quantities of the air contaminant which can result in serious injury, illness or death.

You are now ready to enter the use environment for which the respirator is intended.

WARNING

Immediately leave the work area and replace the respirator if;

- i. breathing becomes difficult;
- ii. dizziness or other distress occurs,
- iii. you smell, taste or sense irritation from the contaminants in the work area,
- iv. the air purifying element is equipped with an End-of-Service-Life Indicator which has changed color to indicate expiration, or
- v. the respirator becomes damaged.

Should any of these occur, and you remain in the contaminated work area, you risk exposure to hazardous quantities of the air contaminant which can result in serious injury, illness or death.

4.1 SERVICE LIFE

The service life of this respirator will vary depending on the work environment.



4.1.1 CARTRIDGES

When you are using a gas or vapor cartridge respirator which does not have End-Of-Service-Life Indicators, you will know the service life is ending when you smell, taste, or sense irritation from the contaminants while wearing the respirator.

If the respirator has End-Of-Service-Life Indicators, the cartridges must be changed when the color of either one of the indicators match the color standard indicated on the cartridge.

4.1.2 PARTICULATE FILTERS

When you are using a particulate filter respirator, or a gas or vapor respirator with pre-filters, the filters or pre-filters should be replaced when breathing becomes difficult.

5 TO TAKE OFF THE RESPIRATOR

- 1) Go to an area with uncontaminated breathable air.
- 2) Loosen headbands and remove the facepiece.

6 TURNAROUND MAINTENANCE

After each use, the respirator should be examined by trained personnel:

NOTE

It is good hygiene practice to replace the air-purifying elements after a single day of use even if the service life of the air-purifying elements have not expired.

WARNING

Always replace air-purifying elements after water spray decontamination. Excessive moisture can damage the air-purifying elements and expose the user to the risk of serious injury, illness or death.

6.1 AIR-PURIFYING ELEMENT REPLACEMENT

NOTE

The replacement of air-purifying elements must be done in a safe area containing uncontaminated breathable air.

6.1.1 PRE-FILTERS

To replace pre-filters, detach the filter cover from the cartridge or filter holder, discard old pre-filters and replace them with new ones. Follow the directions printed on the pre-filter for proper orientation. Check to ensure that the entire outer edge of the pre-filters are seated evenly and securely against the inner wall of the filter covers. Snap the filter covers with the pre-filters to the cartridges or filter holders. (See Figures 1 and 2.)



6.1.2 CARTRIDGES

To replace gas, particulate or combination cartridges, unscrew them from the inhalation connectors, which are mounted on the facepiece, and discard them. Screw on new cartridges tightly to insure an effective seal between each cartridge and the facepiece. (See Figure 3.)

6.2 INSPECTION

Visually inspect all components for damage or wear, especially rubber parts. Replace parts where needed.

If needed, clean and sanitize the facepiece assembly (see Section 8: Periodic Maintenance).

7 STORAGE

Store in a clean dry area in the respirator storage bag provided with the facepiece.

CAUTION

Rubber and elastomeric parts must be stored in a manner which will prevent them from taking an abnormal set. Do not expose this device, during storage, to excessive heat (above 140°F/60°C), moisture, contaminating gaseous substances or airborne particulates. Excessive heat may distort the facepiece resulting in the inability to achieve a proper fit. Moisture and contaminated air can damage the air purifying elements. Either of these conditions will expose the wearer to the risk of serious injury, illness or death.

8 PERIODIC MAINTENANCE

As needed, remove, inspect and clean the facepiece assembly.

⚠ WARNING

The NIOSH Approval and all North warranties for this respirator are nullified if other than North replacement parts are used.

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8.1. CLEANING AND SANITIZING

⚠ WARNING

Never allow air-purifying elements to come in contact with water or cleaning and sanitizing solutions. Excessive moisture can damage the air-purifying elements and expose the user to the risk of serious injury, illness or death.

- 1) Remove filters and/or cartridges from connectors and discard them.
- 2) Inspect headbands for wear. Check all elastomer and rubber parts for pliability and signs of deterioration.
- 3) Remove the facepiece Inhalation connectors, headband assembly, exhalation valve guard, valve and seat from the facepiece.
- 4) Remove the inhalation valves from Inhalation connectors.
- 5) Prepare a solution of cleaner/sanitizer (North Catalog Number 80992) according to the cleaner/sanitizer Instructions.
- 6) Wash the facepiece and components in the cleaning solution.
- 7) Rinse components completely in clean warm water, then air dry in a clean area.
- 8) Visually inspect the exhalation valve for damage. If damage or wear is evident, replace.
- 9) Reassemble the facepiece: Follow steps 2 through 4 above, in reverse order.



8.2 PREPARE FOR USE

- 1) Install a new pair of air-purifying elements.
- 2) Perform a fit check to make sure that components are functioning properly.

9. REPLACEMENT PARTS

COMPLETE ASSEMBLIES		
CATALOG NUMBER		DESCRIPTION
5500 SERIES	7700 SERIES	
5500-30S	7700-30S	Facepiece Assembly Complete, Small
5500-30M	7700-30M	Facepiece Assembly Complete, Medium
5500-30L	7700-30L	Facepiece Assembly Complete, Large

COMPONENTS (See Figure 11.)			
ITEM	CATALOG NUMBER		DESCRIPTION
	5500 SERIES	7700 SERIES	
1	7700-16	7700-16	Inhalation Connector
2	7700-17	7700-17	Inhalation Valve
3	7700-18	7700-18	Exhalation Valve
4	7700-19	7700-19	Exhalation Valve Seat
5	7700-20	7700-20	Exhalation Valve Guard
6	5500-92	7700-92	Cradle Suspension System
7	5500-11S	7700-11S	Basic Facepiece, Small
7	5500-11M	7700-11M	Basic Facepiece, Medium
7	5500-11L	7700-11L	Basic Facepiece, Large

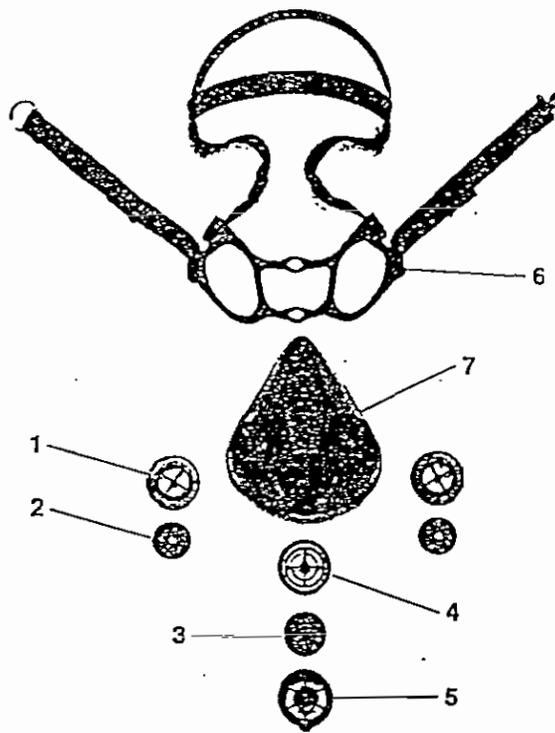


FIGURE 11.



10 ACCESSORIES

CATALOG NUMBER	DESCRIPTION
7002	Fit Check Ampule
7700-21	Fit Test Adapter
N7500-27	Fit Check / Filter Cover
80992	Cleaner/Sanitizer Powder

11 KEY TO CAUTIONS AND LIMITATIONS CONTAINED IN NIOSH APPROVAL LABELS

- A – Not for use in atmospheres containing less than 19.5 percent Oxygen.
- B – Not for use in atmospheres immediately dangerous to life or health.
- C – Do not exceed maximum use concentrations established by regulatory standards.
- H – Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reaction with sorbent.
- J – Failure to properly use and maintain this product could result in injury or death.
- K – The Occupational Safety and Health Administration regulations require gas-proof goggles to be worn with this respirator when used against formaldehyde.
- M – All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA, and other applicable regulations.
- N – Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- O – Refer to user Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
- S – Special or critical user's Instructions and/or specific use limitations apply. Refer to instruction manual before donning.

11.1 SPECIAL USER'S INSTRUCTIONS

WARNING

If the air purifying elements have End-of-Service-Life Indicators, you must be able to see the End-of-Service-Life Indicators while wearing the respirator.

If you cannot see the indicators, do not use the respirator because you will not know when the cartridge has expired. Should this occur, and you remain in the contaminated work area, you risk exposure to hazardous quantities of the air contaminant which can result in serious injury, illness or death.

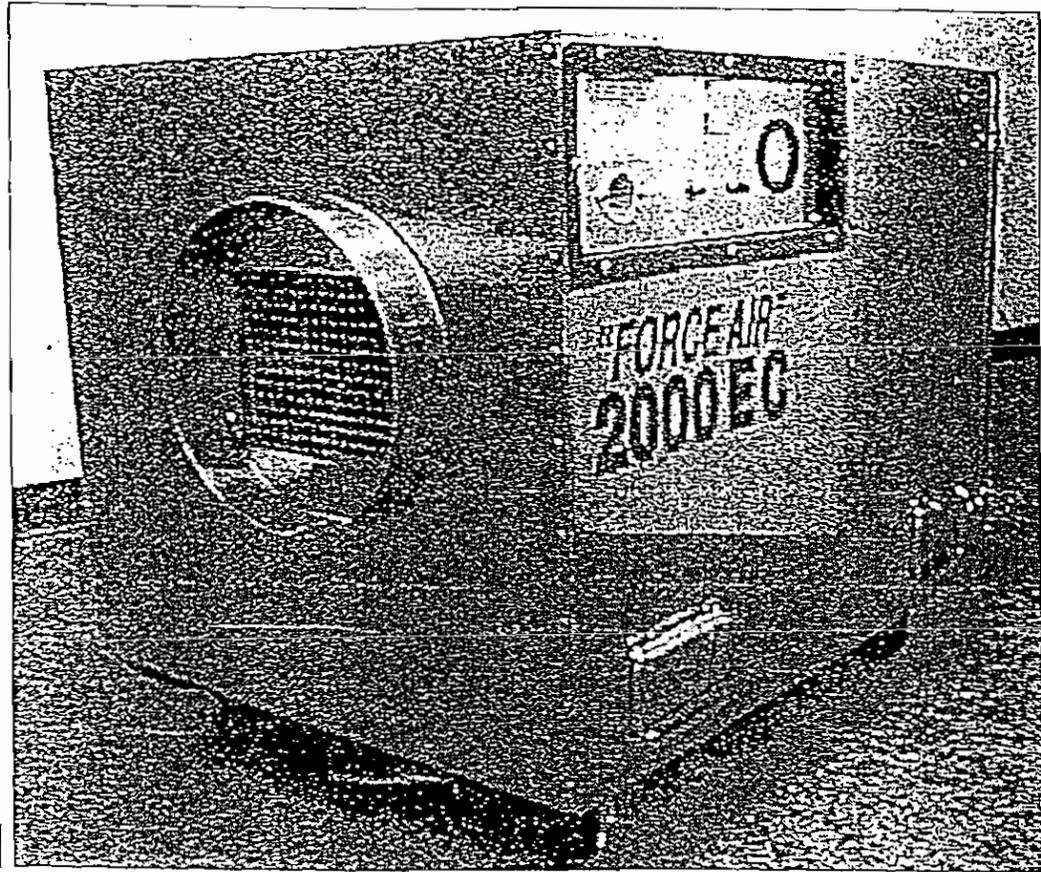
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3.2 Cartridges, Filters and Vacuum System



ADVANCED CONTAINMENT SYSTEMS

Force Air Portable Clean Negative Air Machine



FA 2000 EC

Designed specifically for the cost-conscious contractor that does not require on-line vis and audible alarms. This unit meets specs and exceeds the standards of the EPA, OSHA, N and ANSI.

<u>SPECIFICATIONS</u>	<u>FEATURES</u>	<u>BENEFITS</u>
Dimensions: 37 1/2 x 26 1/2 x 32 1/2	• Heavy duty aluminum cabinet	• Lightweight, durable, rust resists
Prefilter #1: 24 x 24 - 2 ply pad	• Modular control panel and service	• Control panel unplugs for each removal
Prefilter #2: 24 x 24 - 3 ply ring panel	• Sealed control box	• Eliminates leakage around gauge
HEPA Filter: 24 x 24 x 11 1/2 (99.97%)	• HEPA filter is locked in	• Assures positive seal around HEPA filter
Weight: 160 lbs.	• Four heavy duty swivel casters 2 with locks	• Provides easy portability
Motor: High efficient 1 3/4 HP, two speed	• Rugged carrying handles	
Power Supply: 115V, 60Hz, 13 Amps		

(Item 55011)

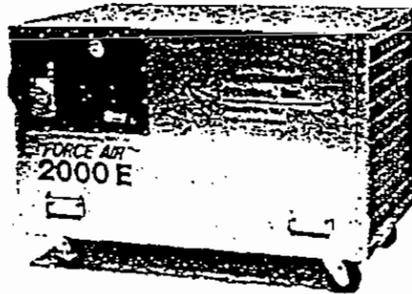
Call for pricing and availability!

~~800-767-6742~~



FA 2000 EPE EXPLOSION PROOF ELECTRIC UNIT

(#55011)



SPECIFICATIONS

Dimensions:	44 1/2 x 26 1/2 x 31
Prefilter #1:	24 x 24 - 2 ply pad
Prefilter #2:	24 x 24 x 3 ply ring panel
HEPA filter:	24 x 24 x 11 1/2 {99.97%}
Weight:	200 lbs.
Motor:	Explosion proof 1 HP
Power Supply:	115 Volt, 60 HZ, 15 Amps

FEATURES

- Thick .090 aluminum cabinet
- 4" heavy duty swivel casters (2 w/locks)
- Rugged carrying handles
- Grounding clamp
- Bracket for grounding wire
- Backwardly incline aluminum Centrifugal fan
- Venturi style inlet cone
- Explosion proof 1 HP motor
- Explosion proof switch
- Explosion proof electrical fittings
- Explosion proof plug

All explosion proof components are UL listed for use in Class I, Group C and Class II, Groups E, F and G hazardous locations.

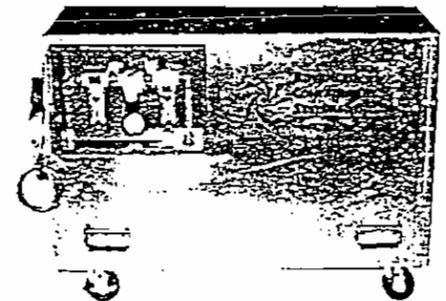
FEATURES

- Heavy duty aluminum cabinet
- 1 1/2 HP air driven motor
- Variable speeds
1/2" quick disconnect, air inlet
Recessed Filter, Regulator, Lubricator
- Inline, inlet air filter
- Inline, inlet lubricator
- HEPA filter is locked in
- Rugged carrying handles
- Four heavy duty 4" swivel casters
- Backwardly incline aluminum centrifugal fan
- Venturi style inlet cone
- Welded air tight construction
- Grounding clamps

BENEFITS

- Lightweight, durable, rust resistant
- Used where electric motors are prohibited
- Variable air control
- Standard fitting
- Protects it from damage
- Provides motor protection
- Provides motor lubrication
- Prevents particle by-pass
- Provides easy portability
- Can withstand high static pressure
- Provides increased CFM
- Extends filter life
- Reduces air turbulence for increased CFM output

FA 2000 EP EXPLOSION PROOF PNEUMAT



SPECIFICATIONS

Dimensions:	44.5" x 26.5" x 31"
Prefilter #1:	24 x 24 - 2 ply pad
Prefilter #2:	24 x 24 -3 ply ring panel!
HEPA Filter:	24 x 24 x 11 1/2 (99.97%)
Weight:	185 lbs.
Motor:	1 1/2 HP air driven
Power Supply:	90 PSI - 65 CFM - compressed : Filter Gauge

HYDRO FORCE HF-4 PNEUMATIC WATER FILTRATION SYSTEM



SPECIFICATIONS

Dimensions:	21 x 20 x 26
Weight:	70 Lbs with casters
Filters:	(2) 50 micron pleat (9 3/4 x 4 1/2) (2) 5 micron pleat (9 3/4 x 2 3/4)
Pump:	20 GPM - variable
Motor:	Air driven - 1 1/2 HP
Flow rate:	20 GPM

FEATURES

- Heavy duty (.090) aluminum housing
- Variable speed air driven motor
- Inlet air filter
- Inlet air lubricator
- Galvanized plumbing
- (4) 2" swivel caster
- Pleated filters
- Bronze rotary gear pump
- Zerk fittings on pump

Features

Equipped with a HEPA filter system. Consisting of a primary certified absolute filter, double layer intermediary micro filter and totally enclosed two ply disposable paper filter bag. The HEPA filter has a steel outer casing and micro-fibered glass paper filter media separated by corrugated aluminum sheeting that is encased in a protective steel screening.

The HEPA filter is rated with a minimum efficiency of 99.97% at 0.3 microns. Tested using the HOT DOP method @ 100 CFM for 16" and 75 CFM for 14".

Poly and steel tank models have the same quality features as our standard vacuums.

Units are shipped with intermediary micro pre-filter (2/pk) disposable paper filter bags (5/Pk) and 6 mil poly bags (5/pk) with OSHA markings. DAF models include 1 1/2" dry tool kit and WA models a wet/dry tool kit.

An optional wet conversion kit converts the dry vacuum over for liquid pickup. See page 27.

UL, CUL, CSA, NRTL/C listed.

HazardMaster Specifications:

Model No	Type	Rec Cap	Tank Type	Part No	Model No	Type	Rec Cap	Tank Type	Part No
120V, 1 1/4 HP By-Pass Motor - 84" Waterlift, 94 CFM					120V, 2 1/4 HP By-Pass Motor - 110" Waterlift, 115 CFM				
.010DAF	Dry	7 Gal	Steel	394572	1015DAF	Dry	7 Gal	Steel	382701
2010DAF	Dry	16 Gal	Steel	380423	2015DAF	Dry	16 Gal	Steel	380431
P4810DAF	Dry	8 Gal	Poly	310069	P4815DAF	Dry	8 Gal	Poly	310093
P4810WAF	W/D	8 Gal	Poly	310298	P4815WAF	W/D	8 Gal	Poly	310301
P41510DAF	Dry	16 Gal	Poly	310190	P41515DAF	Dry	16 Gal	Poly	310212
P41510WAF	W/D	16 Gal	Poly	309087	P41515WAF	W/D	16 Gal	Poly	309907

Note: Steel tanks are also available in stainless steel.

Model No	Type	Rec Cap	Tank Type	Part No
120V, 1 1/2 HP By-Pass Motor - 88" Waterlift, 128 CFM				
P41520DAF	Dry	16 Gal	Poly	310220
P41520WAF	W/D	16 Gal	Poly	310387

Back Pack HEPA Dry Vacuum

This lightweight stainless steel vacuum is perfect for use in hard reach areas. The HEPA filter has a minimum efficiency rating of 99.97% at 0.3 microns HOT DOP method certified @ 100 CFM. Strap it on your back, clean in hard to reach and limited areas. Easily detachable back frame can be removed to create a lightweight canister vac.



410SSDAF

UL, CUL listed

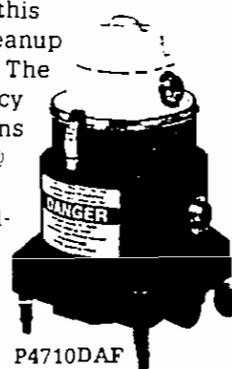
Specifications:

410SSDAF (302775) w/1 1/2" dry kit

Motor: 120V, 1 1/4 HP By-Pass - 84" Waterlift, 94 CFM
Tank Capacity: .40 Bu Recovery

EnviroMaster™ HEPA Dry Vacuum

Easy to carry and transport, this compact vac is perfect for cleanup in small and confined areas. The filter has a minimum efficiency rating of 99.97% at 0.3 microns HOT DOP method certified @ 100 CFM. The heavy-duty poly tank is rotationally molded, equipped with four-2 1/2" swivel casters and three hold-down clamps.



P4710DAF

Specifications:

P4710DAF (369861) w/1 1/2" dry kit
P4710HVAF (369888) w/1 1/4" dry kit

Motor: 120V, 1 1/4 HP By-Pass - 84" Waterlift, 94 CFM
Tank Capacity: .70 Bu Recovery

Note: Available in 100V, 230V - 50/60 Hz, 400 Cycle



Cleaners

Our hazardous waste vacs with HEPA filtration are designed for removal of asbestos, lead, aluminum, ceramic dust, fiberglass and many other hazardous materials.

Designed for use in clean rooms, hospitals, or industrial plants and wherever air or dust pollutants exist.

See pages 24 and 25 for motor head and tank specifications.

See pages 26 and 27 for adaptors and accessories.



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(54220)



CORPORATE OFFICE • P.O. BOX 29 • 1655 IMPERIAL WAY • THOROFARE, NEW JERSEY 08086-0029
(609) 848-5330 • (800) 767-6933 • FAX: (609) 848-0802
www.aramsco.com

January 12, 1999

To Whom It May Concern:

Hepa filtered vacuums and negative air machines are required to meet two standards in the asbestos industry.

UL Standard (Underwriters Laboratories)

- A. Electrical for the motors, plugs and GFCI if included with the unit.
- B. Fire retardancy of the Hepa media.

ANSI Z9.2

This is a standard that applies to the efficiency of the final filter requiring a minimum of 99.97% at .3 micron. DOP testing assures compliance with Mil-STD 282.

Aramsco Hepa Filtered Vacuums, Aramsco Negative Air Machines, Aramsco Blastrac Dust Collector Systems, and Ram Air Jr. Negative Air Units featured in our catalog are tested to meet ANSI Z9.2 standards. All our Hepa filters are D.O.P tested in accordance with Mil-STD 282, and are registered and labeled on each individual unit by the manufacturer. They meet or exceed a minimum of 99.97% efficiency for .3 micrometer particles.

Sincerely,

ARAMSCO, INC.

David H. Naylor
Sales Manager

DHN/mf

PHILADELPHIA
(800) 767-6933
FAX: (609) 848-0802

TAMPA
(800) 767-1225
FAX: (941) 665-2037

NEW YORK CITY
(888) 767-4359
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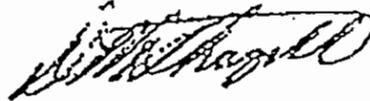
To whom it may concern:

This is to certify that Abatement Technologies' HEPA-AIRE air filtration machines are manufactured in accordance with ANSI Z9.2-1974 requirements for negative pressure generating air filtration equipment. Units include the H1000V, H1890C, H2000A, H2000C, H2000P, H2000EA, H2000EC and H5000C. These machines are also designed to meet or exceed the requirements of ANSI N509-1980 for overall filtration efficiency.

Each of the Type A HEPA filters we supply as original equipment in these machines has been individually tested in accordance with IES-RP-CC-001-86 and certified to meet or exceed a minimum filtration efficiency of 99.97% against 0.3 micron particles. Individual filter efficiency results are labeled on each filter.

Use of substitute HEPA filters in HEPA-AIRE machines voids all performance claims and warranties.

Sincerely,



David M. Shagott
 President
 Abatement Technologies, Inc.

DS:db





10702 N. 4th Street - Tampa, Florida 33617
(813) 971-2223 FAX (813) 971-0090

January 7, 1997

Subject: Certification

To Whom It May Concern:

This is to certify that the exhaust air stream emitted from a properly assembled and maintained Pullman/Holt vacuum cleaner or air moving device equipped with a H.E.P.A. filter meets or exceeds OSHA Standard 1910-1001, as amended and all applicable sections of A.N.S.I. z 9.2 for asbestos fiber concentration.

This certification applies also to other solid particulate materials such as lead, silica, radioactive dust and many other hazardous materials. This filter is not suitable for materials that vaporize, such as Mercury.

Each H.E.P.A. filter is individually tested per MIL-STD 282 and certified by the filter manufacturer for a minimum efficiency of 99.97% on 0.3 micron particles.

Sincerely,

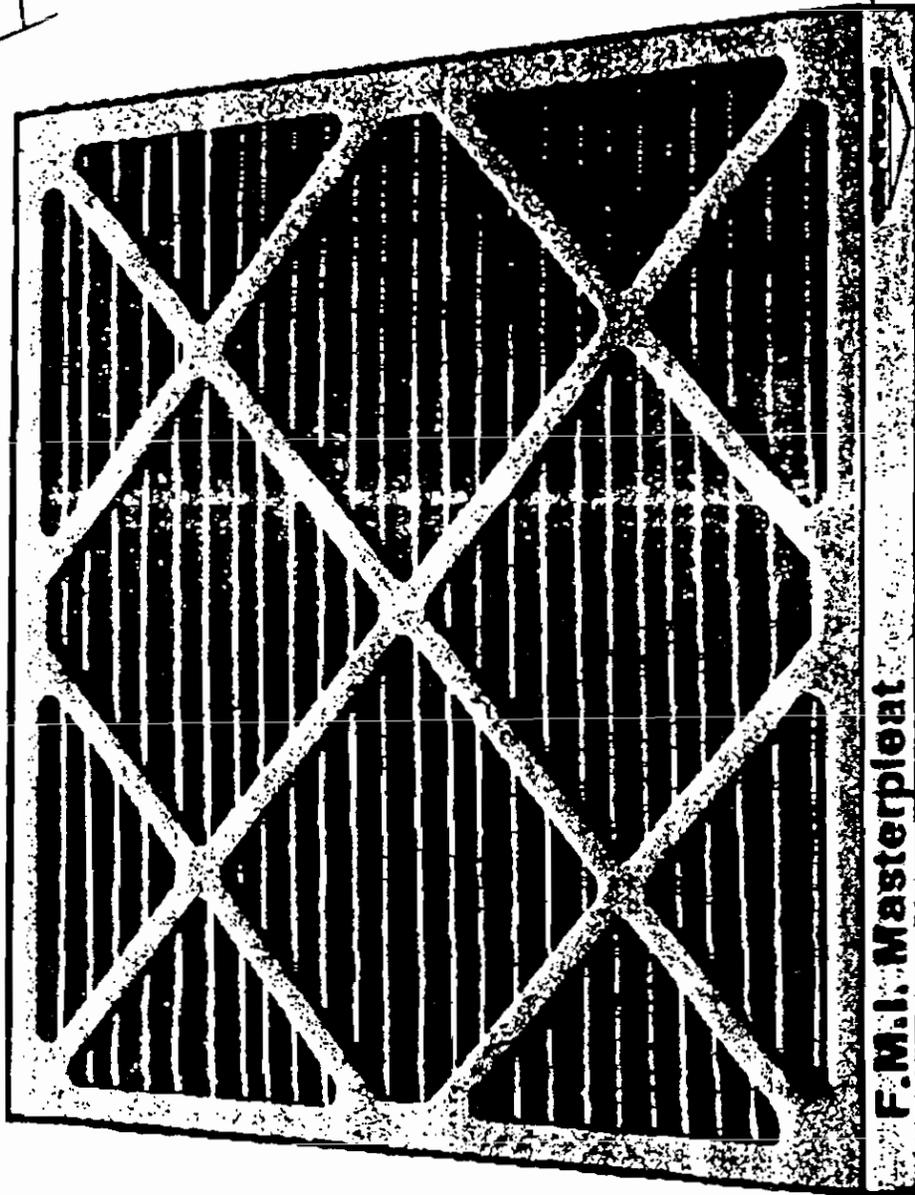
Robert Eukovich
Vice President
Sales and Marketing

RE:kb

FILTRATION MASTER, INC.

FMI-MASTERPLEAT

#55017



Filter media & backing:

The MASTERPLEAT 40 utilizes a lofted, non-woven filter media composed of cotton and synthetic fibers. The fiber blend maximizes dust retention capabilities while giving the MI-MP a 30-35% average efficiency and a 90-93% average pressure resistance when tested in accordance with ASHRAE Test Method 52-76. The media is treated with a fire retardant additive for safety purposes.

Filter media configuration & support:

The filter media derives its support from being continuously bonded to a corrosion resistant, 28 gauge expanded metal support grid with a 95% open face area. The media/backing construction is formed into aerodynamically optimized pleated pleats and is bonded to the entire periphery of the closure frame thereby eliminating any possibility of air bypassing the media pack. To maintain accurate pleat alignment and prevent sagging or collapse of the filter

when subjected to high concentrations of dust, the diagonal diecut filter support members are bonded to the air entering and exiting edges of the media pack.

Filter closure frame

The FMI-MP filter elements are enclosed in a two piece diecut frame made of heavy duty, high wet strength beverage board. When assembled, the two mating frame components form a double wall on all four sides. The double wall frame combined with the integral corner flaps and the fully bonded construction form a rugged and durable filter that will not rack, warp or leak under normal conditions.

Fire retardant construction:

The MASTERPLEAT 40 standard capacity medium efficiency pleated air filters are U.L. Class 2 approved and listed. Testing on this product was performed in accordance with U.L. Standard 900.

(5507)

Design and construction

Filter media

The filter media used in all filters is a high performance, non-woven, reinforced cotton or rayon fabric, specially manufactured with additive E-7 to meet rigid performance specifications.

Media is available in Type 40, with an ASHRAE 52-76 (atmospheric) efficiency of 30-35% \pm , and in Type 60, with an efficiency of 50-55% \pm .

Media support

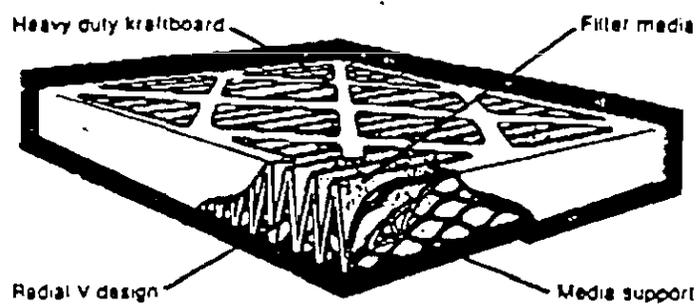
The media support is an "expanded diamond" grid with 98% open area. The filter media is chemically bonded to the media support to ensure pleat stability throughout the life of the filter.

Pleat design

The filter employs an exclusive "radial V" pleat design. This guarantees total usage of filter media, and maximum dust holding capacity. This affords the user a greatly extended service life.

Enclosing frame

The enclosing frame is constructed of rigid, heavy-duty, moisture resistant kraftboard. The support members, which are an integral part of the frame, are bonded to each pleat on the air entering and air exit side to ensure equal spacing and stability. The filter pack is bonded to the inside periphery of the frame to eliminate the possibility of air bypass.



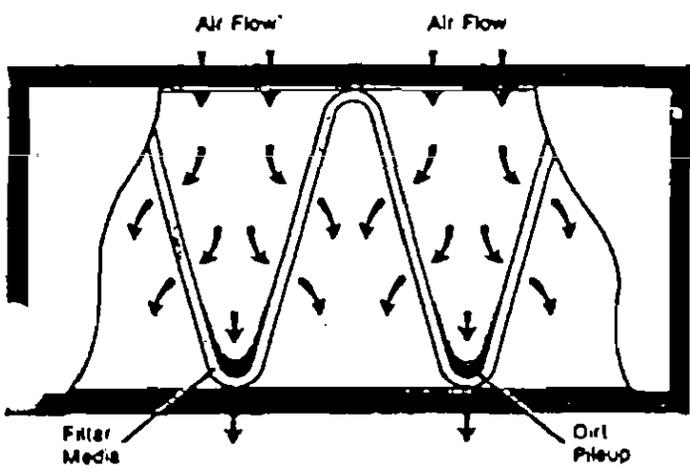
Principles of filtration

Each filter operates on a strainer type principle, utilizing pleats that are shaped and spaced on predetermined centers. This controlled spacing causes diffusion of air pressures over the pleated surface. Initially the least resistance is in the bottom of the pleat where pollutants are filtered out. A build-up of these contaminants increases the resistance at the bottom of the pleat, and air flow gradually moves up the side walls of the pleat as the filter becomes loaded.

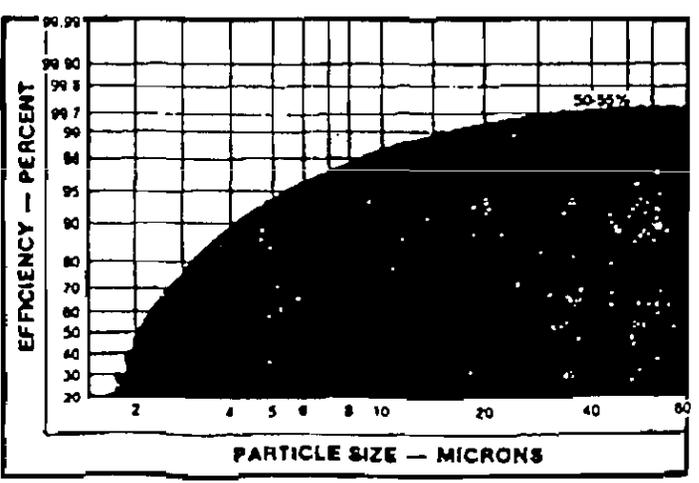
The larger pollutants in the air stream, because of their velocity and inertia forces, are unable to change direction as the airflow moves up the side walls of the

pleat, and these pollutants lodge themselves in the back of the pleat while the finer microscopic particles become trapped on the side walls.

As dirty air angles through the pleat sides, increased media loft (created by the particulate layer build up) is achieved, with the result of better micron efficiency. This is the strainer principle of filtration. The pollutant bed functions as a supplemental filtration medium throughout the filter's life.



Efficiency vs. particle size



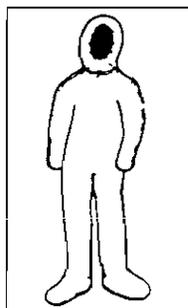
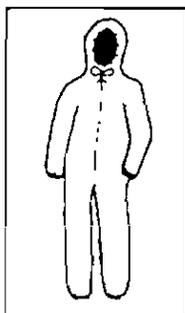
3.3 Protective Clothing

Polycoated Polypropylene Disposable Clothing



These coveralls are made of a lightweight material providing an effective barrier and are designed for industrial applications where basic chemical protection is needed. Results from independent laboratory tests show that Poly-Safe performs as good as, and in many cases better than Tyvek® and Tyvek® QC (see chart below.) These coveralls have passed the ASTM ES-21 test determining its resistance to liquid penetration. This test is the standard used by OSHA regarding bloodborne pathogens and other potentially harmful fluids.

- Polycoated Coverall
- Zipper Front
- Elastic Wrists & Ankles
- Attached Hood
- Serge Seam • 25/case



- Polycoated Bunnysuit
- Zipper Front
- Elastic Wrists & Ankles
- Attached Hood & Boots
- Serge Seam • 25/case

Yellow

- 50451XL
- 504522XL
- 504533XL
- 504544XL
- 504555XL

White

- 50473XL
- 504742XL
- 504753XL
- 504764XL

Yellow

- ~~50477XL~~
- ~~504782XL~~
- ~~504793XL~~
- ~~504804XL~~

ND= None Detected

Call for current pricing

CHALLENGE CHEMICAL	TYVEK® QC		POLYCOATED POLYPROPYLENE	
	Normalized Breakthrough Time (minutes)	Permeation Rate (µg/cm2/minute)	Average Normalized Breakthrough Time (minutes)	Average Permeation Rate (µg/cm2/minute)
Acetone	Immediate	10	8	0.62
Acetonitrile	Immediate	16	<4	8.7
Ammonia	Immediate	3.1	4	4.5
1, 3 Butadiene	8	12	8	11.9
Carbon Disulfide	Immediate	HIGH	<4	>50
Chlorine Gas	Immediate	>50	6	23
Dichloromethane	Immediate	>50	4	0.59
Diethylamine	Immediate	64	4	9.5
N,N-Dimethylformamide	Immediate	0.72	8	2.1
Ethylacetate	7	12.7	4	3.3
Ethyleneoxide	Immediate	168	<4	359
n-Hexane	Immediate	HIGH	4	6.3
Hydrogen Chloride	Immediate	9.3	30	>50
Methanol	Immediate	2.2	<4	2.23
Methylchloride	Immediate	0.3	4	0.38
Nitrobenzene	Immediate	18	4	16
Sodium Hydroxide	>480	ND	ND	ND
Sulfuric Acid	>480	ND	ND	ND
Tetrachloroethylene	Immediate	410	8	10
Tetrahydrofuran	Immediate	183	<4	>50
Toluene	Immediate	HIGH	8	25



TECHNICAL DATA

*lake land Spec
Sheet for Spun Polypropel*

(50137)

Gage (O.D.)	Thickness (Mils)	Tensile		Elongation		Trapezoid Tear				Air Permeability (Cu. Ft./Sq. Ft./Min.)	Mullen Burst (Psi)
		MD (Lbs.)	CD (Lbs.)	MD (%)	CD (%)	MD		CD			
						Peak (Lbs.)	Avg. (Lbs.)	Peak (Lbs.)	Avg. (Lbs.)		
0.50	4.1	10.8	6.8	80.0	105.0	5.8	4.1	4.1	2.7	880.0	46.0
0.75	5.3	17.1	11.9	95.0	115.0	8.3	5.8	6.2	3.9	660.0	50.0
0.90	7.2	20.8	14.9	100.0	120.0	9.8	6.8	7.5	4.7	590.0	52.0
1.00	7.6	23.3	16.9	105.0	125.0	10.9	7.5	8.4	5.2	555.0	54.0
1.25	10.1	29.6	22.0	115.0	130.0	13.4	9.1	10.5	6.4	500.0	57.0
1.50	11.5	35.9	27.1	120.0	135.0	16.0	10.8	12.5	7.6	420.0	61.0
	13.3	42.2	32.2	120.0	140.0	18.5	12.5	14.8	10.1	380.0	65.0
2.00	15.1	48.4	37.3	115.0	135.0	21.1	14.2	16.9	10.1	335.0	68.0
2.25	15.5	54.7	42.3	110.0	130.0	23.6	15.9	19.1	11.4	300.0	72.0
	ASTM D1910	ASTM D1682		ASTM D2263				ASTM D737-75		ASTM D3786-80A	

NO matter what the color the specs are the same

Poly-Bond



MID-ATLANTIC PARK
POST OFFICE BOX 29
1655 IMPERIAL WAY
THOROFARE, NJ 08086-0029
TELEPHONE: (800) 767-6933
(609) 848-5330 FAX: (609) 848-0802

To the best of Poly-Bond Inc's knowledge, information in this publication is generally complete and accurate. Poly-Bond, Inc. will use its best efforts to keep this data current and will issue new and supplementing information from time to time as conditions warrant. However, since this information is intended to be a general guide only, no specific warranties are made as to the suitability of any Poly-Bond, Inc. products for particular

end uses. Good business practice requires that sufficient testing be performed prior to production of end user for release to the market. Poly-Bond, Inc's responsibilities for its products are limited to those stated in its standard Terms and Conditions of Sale in its Sales Acknowledgement Form and representations or warranties, express or implied, are made separate and apart from such terms and conditions of sales.

Section 4

Other Expendable Supplies and Chemicals

4.1 Other Expendable Supply Information

2600 Seventh Avenue, Waterville, NY 12189

Nashua 3000 All-Purpose Grade DUCT TAPE

Features:

- Conforms well to irregular surfaces
- Excellent adhesion to a wide variety of surfaces
- Tears straight, hangs straight, does not curl
- Easy-unwind

Typical Values:

Adhesive:	Grey Calendered Rubber/Resin
Adhesion to Steel (oz./in.):	45
Adhesion to Backing (oz./in.):	40
Quickstick (oz./in.):	15
Elongation (%):	6.8
Gauge (Mils):	10
Tensile (lbs./in.):	21
Unwind (lbs./in.):	4.3
Maximum Performance Temp. (°F):	200
Flame Spread:	15
Smoke Developed:	5

Values when tested in accordance with UL 723 & ASTM E84-91A

Applications:

- An indispensable item in the home for all general repair
- Used for bundling, patching and mending
- Useful as an emergency tape for automotive breakdowns

(52457)

MATERIAL SAFETY DATA SHEET

U.S. Department of Labor
Occupational Safety and Health Administration
OMB No. 1218-0072
OSHA's Hazard Communication Standard
29 CFR 1910.1200

HAZARD RATING (NFPA)
Health 1
Flammability 3
Reactivity 0
Specific None

IDENTITY: *Personal Safety Equipment Cleaning Pads*

P/N 1001 (RESPI WIPES)

SECTION I

Allegro Industries
6403 E. Alondra Blvd
Paramount, CA 90723
(310) 633-4861

Chemtrac (800) 434-9300

SECTION II *Hazardous Ingredients/Identity Information*

Ingredients	%	ACGIH TLV	Cas Number
Isopropyl Alcohol	70	400 ppm	67-63-0

SECTION III *Physical/Chemical Characteristics*

Boiling Point	-	N/A	Specific Gravity	-	0.868 - 0.878
Vapor Pressure	-	25.7	Melting Point	-	N/A
Vapor Density	-	1	Evaporation Rate	-	1

Appearance & Color - Water white liquid with alcohol odor.

N/A = Not Applicable

Revised 3/13/96 *Current MSDS*
1997

= 0610 2

B02 ✓

MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 72805

Page: 1

Product Name: SD 360 POLYETHYLENE

Effective Date: 06/12/90 Date Printed: 02/27/91

MSDS:000443

1. INGREDIENTS: (% w/w, unless otherwise noted)

Polyethylene homopolymer CAS# 009002-88-4 100%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: Not applicable
VAP PRESS: Not applic.
VAP DENSITY: Not applic.
SOL. IN WATER: Nil
SP. GRAVITY: 0.91 - 0.97
APPEARANCE: Translucent white, solid pellets or granules.
ODOR: No odor.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: Not applic.
METHOD USED: Not applic.

FLAMMABLE LIMITS
LFL: Not applic.
UFL: Not applic.

EXTINGUISHING MEDIA: Water fog, foam, alcohol foam, CO₂, dry chemical.

FIRE & EXPLOSION HAZARDS: Dense smoke emitted when burned without sufficient oxygen. Accumulation of fine dust particles could pose an explosion hazard.

(Continued on page 2)

(R) Indicates a Trademark of The Dow Chemical Company

* An Operating Unit of The Dow Chemical Company

DND

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 72805

Page: R-1

Product Name: SD 360 POLYETHYLENE

Effective Date: 06/12/90 Date Printed: 02/27/91

MSDS:000443

REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific

information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

(R) Indicates a Trademark of The Dow Chemical Company
The Information Herein Is Given In Good Faith, But No Warranty,
Express Or Implied, Is Made. Consult The Dow Chemical Company
For Further Information.

* An Operating Unit of The Dow Chemical Company

12757

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 72805

Page: 2

Product Name: SD 360 POLYETHYLENE

Effective Date: 06/12/90 Date Printed: 02/27/91

MSDS:000443

3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FIRE-FIGHTING EQUIPMENT: Wear positive pressure, self-contained breathing apparatus in any closed space.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Temperatures over 572F, 300C will release combustible gases.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustible gases when exposed to temperatures over 572F, 300C.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Sweep up and discard.

DISPOSAL METHOD: Bury in landfill or burn in an adequate incinerator in accordance with applicable local, state, and federal regulations.

6. HEALTH HAZARD DATA:

EYE: Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN CONTACT: Essentially nonirritating to skin. Mechanical injury only.

SKIN ABSORPTION: A single prolonged skin exposure is not likely to result in the material being absorbed through skin in harmful amounts.

(Continued on page 3)

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* An Operating Unit of The Dow Chemical Company

15705

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 72805

Page: 3

Product Name: SD 360 POLYETHYLENE

Effective Date: 06/12/90 Date Printed: 02/27/91

MSDS:000443

6. HEALTH HAZARD DATA: (CONTINUED)

INGESTION: May cause choking if swallowed. Single dose oral toxicity is believed to be very low. Considered physiologically inert.

INHALATION: Vapors are unlikely due to physical properties. Single exposure to dust is not likely to be hazardous.

SYSTEMIC & OTHER EFFECTS: No relevant information found.

7. FIRST AID:

EYES: Irrigate immediately with water for at least 5 minutes. Mechanical irritation only.

SKIN: Wash off in flowing water or shower.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

INHALATION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): None established.

VENTILATION: Good general ventilation should be sufficient.

RESPIRATORY PROTECTION: No respiratory protection should be needed.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

EYE PROTECTION: Use safety glasses.

9. ADDITIONAL INFORMATION:

(Continued on page 4)

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BAGS ✓

Dow Chemical U.S.A.* Midland, MI 48674 Emergency Phone: 517-636-4400

Product code: 72805

Page: 4

Product Name: SD 360 POLYETHYLENE

Effective Date: 06/12/90 Date Printed: 02/27/91

MSDS:000443

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Practice reasonable care and caution in handling.

MSDS STATUS: Revised section 9 and regsheat.

For information regarding state/provincial and federal regulations see
The Regulatory Information Section.
(R) Indicates a trademark of The Dow Chemical Company

* An Operating Unit of The Dow Chemical Company

Material Safety Data Sheet

(PG-1042)

4 MIL (d)
6 MIL POLY
FILM

Identity (As Used on Label and LEL) **Polyolefin (CH₂ - CH₂)_n**

Section I

Manufacturer's Name Rexam Flexible Packaging	Emergency Telephone Number (612)469-5461
Address 8235 220th Street West	Telephone Number for Information (800)328-4080
Lakeville, MN 55044	Date Prepared
Signature of Preparer (optional)	

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity: Common Name(s))	OSHA PEL	ACGIH TLV	Other Units Recommended	% (Optional)
Polyethylene is not considered a hazardous material.				

Chemical Name: **Polyethylene Film**

Trade Name & Synonyms: **StarFlex Film**

Section III - Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H ₂ O = 1)	0.91 - 0.97
Vapor Pressure (mm Hg)	N/A	Melting Point	0.1%
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	nil

Solubility in Water: **Nil**

Appearance and Odor: **Film solid with negligible hydrocarbon odor.**

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) 353 deg. + 12 deg.C - ASTM D-1929	Flammable Limits N/A	LEL	UEL
-----------------------------------------------------------------------	--------------------------------	-----	-----

Extinguishing Media: **Water, fog, CO2 foam - dry chemical**

Fighting Procedures: **Nothing special**

Unusual Fire and Explosion Hazards: **Nothing special**

(4 MIL & 6 MIL POLY FILM)

Section V - Reactivity Data

Unstable		Conditions to Avoid:
Stable	X	360 deg. C

Incompatibility (Materials to Avoid)
CO, Acrolein, Hydrocarbons, and oxidation products are produced at high temperatures.

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		Conditions to Avoid:
	Will Not Occur	X	

Section VI - Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?

Health Hazards (Acute and Chronic)

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure

Medical Conditions Generally Aggravated by Exposure

Prevention and First Aid Procedures

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Film is a slipping hazard in compliance with federal, state, and local regulations.

Waste Disposal Method

Precautions to Be Taken in Handling and Storing

Other Precautions

Section VIII - Control Measures

Respiratory Protection (Specify Type)

Ventilation	Local Exhaust	Special
	Recommended for high temperature processing	
	Mechanical (General)	Other

Footwear: Gloves Eye Protection

Other Protective Clothing or Equipment

Work Hygiene Practices

4.2 Chemicals including Materials Safety Data Sheet (MSDS)

PRODUCT DATA

L-B-C® LEAD BARRIER COMPOUND

(Type I - Interior)

DESCRIPTION

Product No.: 5400 - Antique Linen
5401 - White
(custom colors available)

L-B-C® Type I is an elastomeric-thermoplastic water based copolymer that meets or exceeds all projected federal, state and local standards for lead-based paint encapsulants. Blended specifically to form a barrier to lead-based paint on interior surfaces, L-B-C Type I has been independently tested to the ASTM E-1795 requirements for a Category I encapsulant. L-B-C Type I has been approved by Massachusetts (No. DL-9977), authorized by the State of Connecticut, and accepted by the states of Ohio, New York and Maryland. L-B-C Type I has also been classified by Underwriters Laboratories (UL® Ref.# 8N32). L-B-C Type I is environmentally friendly and complies with all federal and state VOC requirements. L-B-C Type I has a limited twenty-year warranty, as required by HUD Guidelines and EPA regulations. L-B-C Type I contains Bitrex®, a bitter-tasting, nontoxic anti-ingestant to discourage al contact.

The required minimum 7 mil dry film thickness of L-B-C Type I offers unparalleled coverage and economics. In addition, the lower film thickness reduces stress on the existing paint system and maintains architectural detail. Approved for use in all 50 states.

PROPERTIES

- Percent Solids: 53 ±2% by weight
42 ±2% by volume
- Volatile: Principally water
- Average particle size: 0.2 microns
- Viscosity at 78°F: 120 - 130 Krebs Units
- Weight per gallon @ 78°F: 10.1 ±0.2 lbs/gal.
- Flash Point: Noncombustible (water-based)
- Odor: Virtually odorless
- Shelf Life: @ 78°F, 36 months minimum, (in original factory sealed containers)
- Finish: Eggshell. 60° specular gloss 17 ±5
- Minimum dry film thickness: 7 mils
- Coverage:
 - Airless Spray: 100 ft²/gal. (7 dry mils)
 - Brush: 200 ft²/gal. (4 dry mils)
- Dry Time @ 78°F:
 - To touch: 1 - 2 hours
 - Additional coats: 8 - 16 hours
 - Full cure: 7 - 15 days (7 days ambient)
- Fire rating ASTM E84-81a: Class "A"
(Southwest Research Institute)
Flame Spread: 0
Smoke Developed: 5
- Packaged: 1, 5, and 55 gallon containers



SURFACE PREPARATION

Consult all related local, state and federal regulations prior to surface preparation regarding work practices and personal protection to be used. Dry sanding, scraping and other surface preparation procedures can create toxic dust and hazardous waste. A HEPA (High Efficiency Particulate Air) vacuum should be used on all surfaces to remove hazardous dust and particles. Use MSHA/NIOSH approved or equivalent respiratory protection suitable for concentrations and types of air contaminants encountered. For detailed and specific information regarding surface preparation, refer to L-B-C Type I Specification.

L-B-C Type I must be applied when the atmosphere and surface temperatures are above 50°F. Inspect all surfaces to be treated to insure they are clean, dry and free of all foreign matter including: dust, rust, grease, oil, mildew, glue size, calcimine, wax, soap, loose paint, etc. Patch and repair irregularities in surfaces with prepared vinyl paste or appropriate patching compound. Allow to dry and wet sand until smooth. Where necessary due to discoloration, water-damage, rust, etc., use appropriate Fiberlock primer. For high gloss or newly painted surfaces, wet scour with a coarse scouring pad and apply Lead Prep® (I or II) or any other approved liquid surface cleaner.

FIBERLOCK TECHNOLOGIES, INC.

630 Putnam Avenue, P.O. Box 390432
Cambridge, MA 02139-0802 U.S.A.
Toll Free: 1-800-FIBERLK
Tel. (617) 876-8020
FAX (617) 547-6934

MATERIAL SAFETY DATA SHEET

(Essentially similar to OSHA form 174, Sept. 1985 - For Compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200)

Section I - Product Identity:

Manufacturer's Name:
 Jerlock Technologies, Inc.
 630 Putnam Avenue
 Cambridge, MA
 02139-0802
 Mail Address:
 P.O. Box 390432
 Cambridge, MA 02139-0802

L-B-C[®], Lead Barrier Compound, Type I - Interior

Date of Preparation: December 4, 1997
 Information Telephone Number:
 (617) 876-8020
 Emergency Telephone Numbers:
 Weekdays: (617) 876-8020
 (After hours, weekends & holidays)
 (508) 887-5926, or "CHEM-TEL" Emergency
 Contact Number: (800) 255-3924

Section II - Hazardous Ingredients/Identity Information

HAZARDOUS COMPONENT	COMMON NAME(S)	%	CAS. NO.	OSHA PEL	OR	ACGIH TLV
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None per the limits for reporting set forth in 29CFR 1910.1200 (1)

Section III - Physical/Chemical Characteristics (See reference note(s) No. 1, 2 on Reverse)

Boiling Points of Major Constituent: (Water)	212°F	Specific Gravity (H ₂ O=1) Wgt./gal.	10.4
Vapor Pressure (mm Hg) @ 68°C	17	Melting Point Water (Ice)	32°F
Vapor Density (AIR=1) Heavier Lighter	X	Evaporation Rate (Butyl Acetate=1)	Slower
Solubility in Water	Total	Appearance and Odor	Viscous liquid; slight odor Maximum VOC's 250 g/l

Section IV - Fire and Explosion Hazard Data Non-Flammable

Flash Point: Non-Combustible	Flammable Limits: LEL: N/A UEL: N/A	DOT Hazard Class: Non Regulated	Marking: "Keep From Freezing"
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Section V - Reactivity Data

Hazardous Polymerization: Will not occur.

Stability: Stable

Incompatibility: Avoid Contact with: Strong oxidizing agents (e.g., nitric acid, permanganates), etc.

Hazardous Decomposition Products: Some carbon monoxide

Section VI - Health Hazard Data, Toxicity Data

Route(s) of Entry: N/A

Carcinogenicity?: No

Health Hazards (Acute and Chronic):

EFFECTS OF OVEREXPOSURE: Inhalation, vapors or spray mists may be slightly irritating to eye, nose, throat, and mucous membranes of respiratory tract producing symptoms of headache, nausea in poorly ventilated areas. Skin Contact: Prolonged or repeated contact with coating may cause slight skin irritation. Eye Contact: Direct contact; inconsequential eye irritation. Ingestion: May cause nausea and intended expectoration.⁽²⁾

EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Remove to fresh air. Eye and Skin Contact: Immediately flush eyes with plenty of water for at least 15 minutes and consult physician; wash skin thoroughly with soap and water. If drenched, remove and wash clothing before reuse. Ingestion: If victim is conscious, give 2 glasses of water. Call a physician.

SUPPLEMENTAL INFORMATION

To comply with New Jersey DOH Right-To-Know labeling law (N.J.A.C. 8:59 - 5.1 & 5.2)

CAS. No.:

7732-18-5

13463-67-7

Not Available

Not Available

Not Available

CHEMICAL INGREDIENTS:

Water

Titanium dioxide

Proprietary inert extender*

Proprietary surfactant*

Proprietary resin solids*

*contents partially unknown

HMIS HAZARD RATING			
Health 1	Flammability 0	Reactivity 0	Personal Protection E
HAZARD INDEX			
0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe			
PERSONAL PROTECTION CODE			
E=Safety Glasses, Gloves, Dust Respirator - for airless-spray applications only			

1. This product contains titanium dioxide pigment classified by ACGIH as a "nuisance dust". Exposure to spray mists or sanding dusts should be controlled to below 10 mg/m³ through usage of NIOSH-approved dust filter respirators. 2. Contains 0.04% (Denatonium Benzoate NF - XVII) as an anti-ingestion agent - yields a very bitter taste.

PRODUCT DATA



L-B-C[®] LEAD BARRIER COMPOUND (Type II - Exterior)



DESCRIPTION

Product No.: 5500 - Antique Linen
5501 - White
(custom colors available)

L-B-C Type II is an elastomeric-thermoplastic water-based copolymer blended specifically to form a durable, flexible, and permanent barrier between lead-based paint and the environment on exterior surfaces. It has been independently tested and found to meet or surpass ASTM E-1795, Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings. Formulated specifically for exterior, low-temperature projects, the minimum 38°F air and surface application temperatures make L-B-C Type II a superior encapsulant for exterior lead-paint abatement projects.

L-B-C Type II has a limited twenty-year warranty, as required by HUD Guidelines and EPA regulations.

L-B-C Type II is environmentally friendly and complies with all federal and state VOC requirements. L-B-C Type II contains Bitrex[®], a bitter-tasting, non-toxic anti-ingestant to discourage oral contact. The required minimum 7 mil dry film thickness of L-B-C Type II offers unparalleled coverage and economics. In addition, the lower film thickness reduces stress on the existing paint system and maintains architectural detail. Approved for use in all 50 states.

SURFACE PREPARATION

Consult all related local, state and federal regulations prior to surface preparation regarding work practices and personal protection to be used. Dry sanding, scraping and other surface preparation procedures can create toxic dust and hazardous waste. A HEPA (High Efficiency Particulate Air) vacuum should be used on all surfaces to remove hazardous dust and particles. Use MSHA/NIOSH approved or equivalent respiratory protection suitable for concentrations and types of air contaminants encountered. For detailed and specific information regarding surface preparation, refer to L-B-C Type II Specification.

L-B-C Type II must be applied when the atmosphere and surface temperatures are above 38°F. Inspect all surfaces to be treated to insure they are clean, dry and free of all foreign matter including: dust, rust, grease, oil, mildew, glue size, calcimine, wax, soap, loose paint, etc. Patch and repair irregularities in surfaces with prepared vinyl paste or appropriate patching compound. Allow to dry and wet sand until smooth. Where necessary due to discoloration, water-damage, rust, etc., use appropriate Fiberlock primer. For high gloss or newly painted surfaces, wet scour with a coarse scouring pad and apply Lead Prep[®] (I or II) or any other approved liquid surface cleaner.

PROPERTIES

- Percent Solids by weight: 53 ±2%;
by volume: 42 ±2%
- Volatile: Principally water
- Average particle size: 0.2 microns
- Viscosity at 78°F: 120 - 130 Krebs Units
- Weight per gallon @ 78°F: 10.3 ±0.2 lbs/gal.
- Flash Point: Noncombustible (water-based)
- Odor: Virtually odorless
- Shelf Life: @ 78°F, 36 months minimum, (in original factory sealed containers)
- Finish: Eggshell. 60° specular gloss 17 ±5
- Minimum dry film thickness: 7 mils
- Coverage:
 - Airless Spray: 100 ft²/gal. (7 dry mils)
 - Brush: 200 ft²/gal. (4 dry mils)
- Dry Time @ 78°F:
 - To touch: 2 - 4 hours
 - Additional coats: 8 - 16 hours
 - Full cure: 7 - 15 days (7 days ambient)
- Fire rating ASTM E84-81a: Class "A"
(D/L Laboratories, NY)
 - Flame Spread: 5
 - Smoke Developed: 0
- Scrub Resistance: 2550+ cycles (ASTM D2486)
- Packaged: 1, 5, and 55 gallon containers

FIBERLOCK

FIBERLOCK TECHNOLOGIES, INC.

630 Putnam Avenue, P.O. Box 390432
Cambridge, MA 02139-0802 U.S.A.
Toll Free: 1-800-FIBERLK
Tel. (617) 876-8020
FAX (617) 547-6934

MATERIAL SAFETY DATA SHEET

(Essentially similar to OSHA form 174, Sept. 1985 - For Compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200)

Section I - Product Identity:

Manufacturer's Name:
Loerlock Technologies, Inc.
630 Putnam Avenue
Cambridge, MA
02139-0802
Mail Address:
P.O. Box 390432
Cambridge, MA 02139-0802

L-B-C[®], Lead Barrier Compound[®], Type II -Exterior

Date of Preparation: December 4, 1997
Information Telephone Number:
(617) 876-8020
Emergency Telephone Numbers:
Weekdays: (617) 876-8020
(After hours, weekends & holidays)
(508) 887-5926, or "CHEM-TEL" Emergency
Contact Number: (800) 255-3924

Section II - Hazardous Ingredients/Identity Information

HAZARDOUS COMPONENT	COMMON NAME(S)	%	CAS. NO.	OSHA PEL	OR	ACGIH TLV
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None per the limits for reporting set forth in 29CFR 1910.1200 ⁽¹⁾

Section III - Physical/Chemical Characteristics (See reference note(s) No. 1, 2 on Reverse)

Boiling Points of Major Constituent (Water)	212°F	Specific Gravity (H ₂ O=1) Wgt./gal.	10.4
Vapor Pressure (mm Hg) @ 68°C	17	Melting Point Water (Ice)	32°F
Vapor Density (AIR=1) Heavier Lighter	X	Evaporation Rate (Butyl Acetate=1)	Slower
Solubility in Water	Total	Appearance and Odor	Viscous liquid; slight odor Maximum VOC's 250 g/l

Section IV - Fire and Explosion Hazard Data Non-Flammable

Flash Point: Non-Combustible	Flammable Limits: LEL: N/A UEL:N/A	DOT Hazard Class: Non Regulated	Marking: "Keep From Freezing"
---------------------------------	---------------------------------------	------------------------------------	----------------------------------

Section V - Reactivity Data

Hazardous Polymerization: Will not occur.

Stability: Stable

Incompatibility: Avoid Contact with: Strong oxidizing agents (e.g., nitric acid, permanganates), etc.

Hazardous Decomposition Products: Some carbon monoxide

Section VI - Health Hazard Data, Toxicity Data

Route(s) of Entry: N/A

Carcinogenicity?: No

Health Hazards (Acute and Chronic):

EFFECTS OF OVEREXPOSURE: Inhalation, vapors or spray mists may be slightly irritating to eye, nose, throat, and mucous membranes of respiratory tract producing symptoms of headache, nausea in poorly ventilated areas. Skin Contact: Prolonged or repeated contact with coating may cause slight skin irritation. Eye Contact: Direct contact; inconsequential eye irritation. Ingestion: May cause nausea and intended expectoration.⁽²⁾

EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Remove to fresh air. Eye and Skin Contact: Immediately flush eyes with plenty of water for at least 15 minutes and consult physician; wash skin thoroughly with soap and water. If drenched, remove and wash clothing before reuse. Ingestion: If victim is conscious, give 2 glasses of water. Call a physician.

SUPPLEMENTAL INFORMATION

To comply with New Jersey DOH Right-To-Know labeling law (N.J.A.C. 8:59 - 5.1 & 5.2)

CAS. No.:
7732-18-5
13463-67-7
1317-65-3
Not Available
Not Available

CHEMICAL INGREDIENTS:
Water
Titanium dioxide
Calcium Carbonate
Proprietary surfactant*
Proprietary resin solids*

*contents partially unknown

HMIS HAZARD RATING			
Health 1	Flammability 0	Reactivity 0	Personal Protection E
HAZARD INDEX			
0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe			
PERSONAL PROTECTION CODE			
E=Safety Glasses, Gloves, Dust Respirator - for airless-spray applications only			

S. ⁽¹⁾This product contains titanium dioxide pigment classified by ACGIH as a "nuisance dust". Exposure to spray mists or sanding dusts should be controlled to below 10 mg/m³ through usage of NIOSH-approved dust filter respirators. ⁽²⁾ Contains 0.04% (Denatonium Benzoate NF - XVII) as an anti-ingestion agent - yields a very bitter taste.

Highly concentrated LEDIZOLV™ removes lead-contaminated dust on any surface—yet it has a mild pH, is phosphate-free and completely biodegradable

THE result of extensive research and development, LEDIZOLV is a liquid, phosphate-free, lead-dissolving, controlled-foam anionic detergent.

LEDIZOLV has outstanding metal-ion solubilizing properties at concentrations as low as 2% even at ambient temperatures.

Although concentrated, LEDIZOLV has a mild pH, excellent health-safety and handling characteristics and is biodegradable and readily disposable.

LEDIZOLV reduces costly clearance-testing failures. Unlike trisodium-phosphate (TSP) detergents, LEDIZOLV is free-rinsing.* While TSP actually precipitates lead—it won't solubilize or hold it in solution—LEDIZOLV has been formulated to

exhibit very high complexing, sequestering and metallic-ion solubilizing with many di-valent, tri-valent and tetra-valent metallic ions, combined with excellent hard-surface detergency.

As a result, LEDIZOLV helps reduce clearance-testing failures, eliminating additional costs for recleaning and retesting as well as reoccupancy delays.

In addition, LEDIZOLV's zero-phosphate level and near-neutral pH reduce disposal difficulties.

And, as a hard-surface cleaner LEDIZOLV exhibits good wetting, emulsifying, sequestration, chelating, soil deflocculating and rinsing properties—to reduce additional environmental concerns in lead abatement.

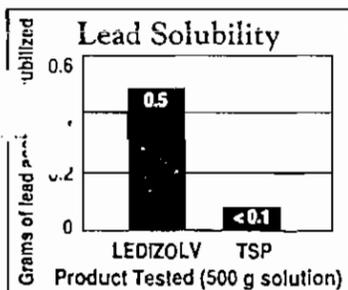
* TSP is also highly alkaline with a pH over 12, and its residue can drastically decrease the adhesion properties of encapsulants.

Physical Data

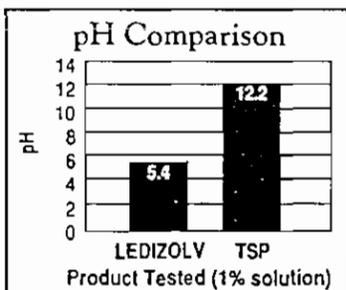
Property	Typical Result
pH (1% in DI water)	5.4
pH (2% in DI water)	5.4
(as is)	5.3
Surface Tension (1% in DI water)	34.0 dynes/cm.
Phosphate Content	0
Solubility in Water	Complete in all proportions
Specific Gravity	1.080
Biodegradability	Complete

Health Safety Information

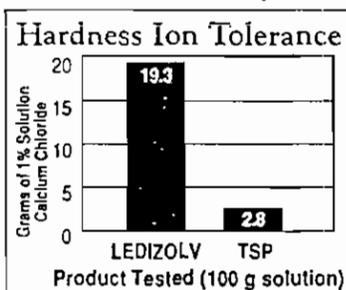
OSHA Hazardous Ingredients:	None
Flammability:	Non-Flammable
Oral Toxicity:	No ingredient defined as an oral toxicant by OSHA
Eye Irritation:	Moderate eye irritant
Inhaled Irritant:	Non-Irritating
Carcinogenicity:	No
NTP:	No
IAFIC:	No
OSHA:	No
National Fire Protection Association	
704 Degree of Hazard Labeling	
Fire:	0
Reactivity:	0
Health:	0
Other:	None



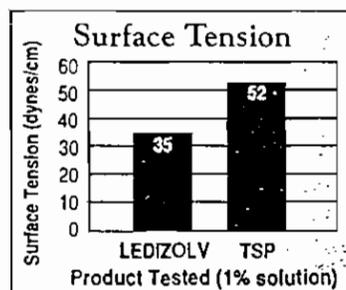
Lead Solubility—LEDIZOLV also exhibits a far greater capacity to solubilize lead. Other products, in fact, do not solubilize any lead at all but form an insoluble precipitate, lead phosphate.



pH—At 1% LEDIZOLV has a pH of approximately 5.4, very near the neutral pH of 7. In addition to mildness of product, LEDIZOLV requires fewer adjustments prior to disposal.



Hardness Ion Tolerance—LEDIZOLV has a substantially higher tolerance to calcium. In areas where hard water is common, LEDIZOLV possesses sufficient water softening properties to maintain its capacity to remove lead even when mixed with hard water.



Surface Tension—LEDIZOLV has a lower water surface tension, effectively making water "wetter." This results in a greater ability to penetrate and spread out evenly and thoroughly on a given surface.



128 Wharton Road
Bristol, PA 19007
800/827-2338 • 800/827-8036 FAX

call or write:

HIN-COR
INDUSTRIES, INC.

Specialized Solutions For Environmental Issues™

Office: Box 410, S. O. Boulevard, North Carolina 27711
(704) 587-0744 • Fax: (704) 587-0498

LEDIZOLV beats all other lead-abatement solutions 50 to 1. Each gallon of highly-concentrated yet biodegradable LEDIZOLV makes 50 gallons of lead dissolving cleaner (2% solution)—making LEDIZOLV the cost-effective solution to your lead-contaminated dust problems.



Material Safety
Data Sheet
(MSDS) for
technical
bulletin available

MATERIAL SAFETY DATA SHEET

Bin #
70

LEDIZOLV™

HIN-COR INDUSTRIES, INC.
136 Sea Island Parkway
Suite #10502
Beaufort, South Carolina 29902

I-IDENTIFICATION

Product Name (As appears on label)	LEDIZOLV™
CAS Registry Number	Not Applicable
Effective Date	March 1, 1993
Chemical Family	Anionic Liquid Detergent

II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

There are no hazardous ingredients in LEDIZOLV™ as defined by the OSHA Standard and Hazardous Substance List 29 CFR 1910 Subpart Z.

III-PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point (F)	220°F
Vapor Pressure (mm Hg)	No data
Vapor Density (AIR = 1)	No data
Specific Gravity (Water = 1)	1.080
Melting Point	Not Applicable
Evaporation Rate (Butyl Acetate = 1)	No Data
Solubility in Water	Completely soluble in all proportions
Appearance and Odor	Amber liquid-slight ammonia odor

IV-FIRE AND EXPLOSION DATA

Flash Point (Method Used)	None (Open cup)
Flammable Limits	LEL No Data UEL No Data
Extinguishing Media	Water, dry chemical, CO ₂ , foam
Special Firefighting Procedures	Self-contained positive pressure breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.
Unusual Fire and Explosion Hazards	None

V-REACTIVITY DATA

Stability	Stable
Hazardous Polymerization	Will not occur
Incompatibility (Materials to Avoid)	Strong oxidizing agents
Hazardous Decomposition or Byproducts	May release ammonia, carbon monoxide or carbon dioxide on burning

VI-HEALTH HAZARD DATA

Route(s) of Entry	Inhalation? No	Skin? Yes	Ingestion? Yes
Health Hazards (Acute and Chronic)	Material may cause eye irritation and/or burns. May cause skin irritation.		
Carcinogenicity	NTP? No	IARC Monographs? No	OSHA Regulated? No

Material Safety Data Sheet

Date last reviewed: June 30, 1987

(PAINT STRIPPER)

I. General Information

(57077)

Chemical Name & Synonyms Proprietary Blend	Trade Name & Synonyms Peel Away 1
Chemical Family Alkaline	Formula Mixture
Proper DOT Shipping Name Sodium Hydroxide Solid Mixture, UN1823	DOT Hazard Classification Containers smaller than 25 lbs (11 kg) - ORM-D. Containers greater than 25 lbs (11 kg) - Corrosive Material
Manufacturer Dumond Chemicals, Inc.	Manufacturer's Phone Number (212) 868-8350
Manufacturer's Address 1501 Broadway, New York, NY 10036	Emergency Number: (800) 457-4280

II. Ingredients

Principal Hazardous Components	CAS #	Percent	PEL	TLV
Calcium Hydroxide	1305-62-0	21	5 mg/m ³ TWA (respirable fraction)	5 mg/m ³ TWA
Magnesium Hydroxide	1309-42-8	16	None Established	None Established
Sodium Hydroxide	1310-73-2	9	2 mg/m ³ TWA	2 mg/m ³ Ceiling
Non-hazardous Ingredients	N/A	Balance	None Established	None Established

SARA 313: This product contains no chemicals that are regulated under SARA Title III, section 313.

III. Physical Data

Boiling Point (°F) Greater than 212	Specific Gravity (H ₂ O = 1) 1.33
Vapor Pressure (mm Hg) @ 20°C same as water	Percent Volatile by Volume (%) 51.5
Vapor Density (Air=1) same as water	Evaporation Rate (Butyl Acetate = 1) same as water
Solubility in Water Complete	pH 13
Appearance & Odor White paste, no odor.	

IV. Fire & Explosion Hazard Data

Flash Point (Test Method) None	Autoignition Temperature None	
Flammable Limits None	LEL N/A	UEL N/A

Extinguishing Media
This material is not combustible. Use media appropriate for the surrounding fire.

Special Fire Fighting Procedures
Wear full emergency equipment and NIOSH approved positive pressure SCBA. Cool containers with water.

Unusual Fire & Explosion Hazards
At elevated temperatures containers may rupture. Contents are corrosive. All personal contact should be avoided.

V. Health Hazard Data

(57077)

OSHA Permissible Exposure Limit See Section II	ACGIH Threshold Limit Value See Section II
Carcinogen - NTP Program No	Carcinogen - IARC No

Symptoms of Exposure
Acute Effects: Eyes: May cause severe burns with possible permanent damage. Skin: May cause chemical burns with reddening and pain. Inhalation: May cause eye and respiratory irritation. Ingestion: May cause burns to mouth and gastrointestinal corrosion.
Chronic Effects: Repeated skin contact with dilute solutions or mists may cause dermatitis.

Medical Conditions Aggravated By Exposure:
 Individuals with chronic respiratory or skin diseases may be at risk from exposure.

Primary Route(s) of Entry
 Eye, skin, ingestion

Emergency First Aid
 Eye: Flush with water for 30 minutes. Get immediate medical attention. Skin: Flush thoroughly w/water for 15 minutes. Remove contaminated clothing. Get medical attention for irritation. Inhalation: Remove to fresh air. Get immediate medical attention. Ingestion: If conscious, give water or milk. Do not induce vomiting. Get immediate medical attention.

IV. Reactivity Data

Stability	X	Unstable Stable	Conditions to Avoid N/A
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Incompatibility
 Acids, flammable liquids, organic halogens, nitromethane and metals such as aluminum, tin or zinc.

Hazardous Polymerization	X	May Occur Will Not Occur	Conditions to Avoid N/A
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Hazardous Decomposition
 None known.

VII. Environmental Protection Procedures

Spill Response
 Wear appropriate protective clothing. Collect into closable containers. Wash spill area with water. Prevent runoff from entering sewers or waterways. Report spills as required.

Waste Disposal Method
 Dispose of in accordance with all state, local and federal regulations.

VIII. Special Protection Information

Eye Protection Chemical safety goggles/Faceshield	Skin Protection Rubber or neoprene gloves
Respiratory Protection (Specific Type) For spray application, wear a NIOSH approved dust/mist respirator & eye protection.	Ventilation Recommended None normally required. If exposure limits are exceeded, local exhaust may be required.
Other Protection Impervious apron, boots, safety shower, eye wash as needed.	

IX. Special Precautions

Hygienic Practices in Handling & Storage
 Store in a cool, well ventilated area away from acids and other incompatible substances.

Work Practices
 Prevent eye and skin contact. Do not breathe mists or aerosols.
Other Precautions
 Use only with appropriate protective equipment. Wash thoroughly after use.

(PG 2)

PEELAWAY I PAINT STRIPPER

Data Sheet

Date last revised April 23, 1991

I. General Information

Chemical Name & Synonyms Acetic Acid Solution	Trade Name & Synonyms Peel Away Neutralizer	(57104)
Chemical Family Organic acid	Formula CH₃COOH - H₂O	
Proper DOT Shipping Name Acetic acid solution, UN 2790	DOT Hazard Classification Corrosive material	
Manufacturer Dumond Chemicals, Inc.	Manufacturer's Phone Number (212) 869-6350	
Manufacturer's Address 1501 Broadway, New York, NY 10036	Emergency Number: (800) 457-4280	

II. Ingredients

Principal Hazardous Components	Percent	PEL/Threshold Limit Value (units)
Acetic Acid (80%) 64-19-7	30	10 ppm 10 ppm
Water 7732-18-5	70	None Established
SARA 313: This product contains no chemicals that are regulated under SARA Title III, section 313.		

III. Physical Data

Boiling Point (°F) 224F	Specific Gravity (H ₂ O = 1) 1.04
Vapor Pressure (mm Hg.) @ 20C 11.8	Percent Volatile By Volume (%) 100%
Vapor Density (Air = 1) 2.07	Evaporation Rate (Butyl = 1) Alcohol 0.97
Solubility in Water Complete	pH Approx. 3.0
Appearance & Odor Clear liquid, characteristic odor of vinegar.	

IV. Fire & Explosion Hazard Data

Flash Point (Test Method) None	Auto Ignition Temperature None	
Flammable Limits None	LEL N/A	UEL N/A
Extinguishing Media This material is not combustible. Use any media appropriate for fire.		
Special Fire Fighting Procedures Wear full protective equipment and NIOSH approved positive pressure SCBA. Cool containers with water.		
Additional Fire & Explosion Hazards At elevated temperatures containers may rupture.		

PEELAWAY

NEUTRALIZER

(57104)

V. Health Hazard Data

OSHA Permissible Exposure Limit

See Section II

Carcinogen - NTP Program

No.

Symptoms of Exposure

Eyes: vapors may irritate, liquid burns. Skin: irritation or burns. Inhalation: irritat
to eyes & upper respiratory tract. Ingestion: burns, vomiting, abdominal pain.

Medical Conditions Aggravated by Exposure

Chronic respiratory or skin diseases.

ACGIH Threshold Limit Value

See Section II

Carcinogen - IARC Program

No.

Primary Route(s) of Entry

Eyes, skin, inhalation, ingestion

Emergency First Aid Eyes: Flush with water, 15 minutes. Get immediate medical attention. Skin: w
well with soap & water. Remove contaminated clothing. Inhalation: Remove to fresh air. S
physician. Ingestion: If conscious, give 2 glasses of water. Do not induce vomiting. G
immediate medical attention.

VI. Reactivity Data

Stability

<input type="checkbox"/>	Unstable
<input checked="" type="checkbox"/>	Stable

Conditions To Avoid

N/A

Incompatibility

Materials To Avoid

Strong alkalis, oxidizers, reducing agents.

Hazardous

<input type="checkbox"/>	May Occur
<input checked="" type="checkbox"/>	Will Not Occur

Conditions To Avoid

N/A

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide, oxides of nitrogen

VII. Environmental Protection Procedures

Spill Response

Wear appropriate protective equipment. Neutralize with baking soda and collect. Flush
area with water.

Waste Disposal Method

Dispose in accordance with all state, local and federal regulations.

VIII. Special Protection Information

Eye Protection

Chemical goggles/Face shield

Skin Protection

Rubber or neoprene gloves

Respiratory Protection (Specific Type)

Organic vapor or self-contained

Ventilation Recommended

Adequate general or local exhaust

Other Protection

Impervious apron, boots, eye wash, safety shower as needed.

IX. Special Precautions

Hygienic Practices in Handling & Storage

Store in a cool, well ventilated area away from oxidizers and other incompatibles.

Work Practices:

Prevent eye and skin contact. Avoid breathing vapors. Use only with adequate ventilat
and appropriate protective equipment.

Other Precautions

Wash thoroughly after use. Empty containers retain residues and may be hazardous.

PRODUCT DATA

P-III Neutralizer

DESCRIPTION

P-III Neutralizer is an organic solution used to neutralize surfaces after the application of Piranha III and Piranha V paint strippers. It is pre-mixed and ready to use.

PREPARATION

Remove as much leftover residue as possible by scraping and wiping. Wear proper respiratory equipment prior to spray application.

APPLICATION

Apply the P-III Neutralizer by spray application. Wipe down the surface and allow it to dry. If a white film forms on the surface, repeat the process. Test the pH level if possible. Allow surface to dry thoroughly before applying Fiberlock's Lead Shield™ or any other approved lead based paint post removal lockdown.

P-III Neutralizer can be successfully applied in a one coat application with most airless spray equipment including Graco®, Wagner®, Titan®, Binks® and Hero®.

COVERAGE

400 sq.ft./gal.

CLEAN UP

Clean up tools and drippings with soapy water. Properly dispose of waste in accordance with local, state and federal regulations. Keep container closed when not in use.

FIRST AID

For skin irritation, wash with water immediately. If irritation persists seek medical attention. In case of eye contact, flush thoroughly with water. Get medical attention. If ingested, drink water or milk and seek medical attention.

CAUTIONS

Spray mists from the P-III Neutralizer may be irritating to the nose and throat. Wear protective clothing and rubber gloves. Wear eye protection at all times. P-III Neutralizer can be slippery when spilled on the floor.

Recommended settings for airless spray equipment:

Pressure: 1800 - 2000 psi
 Hose length: 50 - 100 feet
 Hose diameter: 1/4 inch
 Tip orifice size: 0.021" - 0.025"
 (ideal setting: 0.023")
 Tip fan size: 521

**KEEP FROM FREEZING
 FOR PROFESSIONAL USE ONLY
 KEEP OUT OF REACH OF CHILDREN**

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use of this product are beyond our control. Neither Fiberlock Technologies, Inc., nor its agents shall be responsible for the use or results of use of this product or any injury, loss or damage, direct or consequential. We recommend that the prospective user should determine the suitability of P-III Neutralizer for each specific project and for the health and safety of personnel.



FIBERLOCK TECHNOLOGIES, INC.

630 Putnam Avenue, P.O. Box 390432
 Cambridge, MA 02139-0802 U.S.A.
 Toll Free, 1-800-FIBERLK
 Tel. (617) 876-8020

MATERIAL SAFETY DATA SHEET

(Essentially similar to OSHA form 174, Sept. 1985)

For compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200)

SECTION I: PRODUCT IDENTITY:		Piranha III™ Neutralizer # 5735
Company Name:	Fiberlock Technologies, Inc.	Date of Preparation: 2/27/95
/630 Putnam Avenue	Cambridge, MA 02139-0802	Information Phone Number: / (617) 876-8020
		Emergency Phone Numbers:
		Weekdays 617-876-8020
		Weekends & Holidays (508) 887-5926 or
		"CHEM-TEL" Emergency Contact Number
		(800) 255-3924

SECTION II: HAZARDOUS INGREDIENTS/IDENTITY INFORMATION				
Hazardous	Common	%	ACGIH (TLV-TWA)	OSHA PEL
Components:	Names:			or ACGIH TLV:
	Citric Acid (77-92-9)		None Established	
	Nonylphenol ethoxylate (127087-87-0)		None Established	
	Polyethylene Glycol (25322-68-3)		None Established	

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS	
Boiling points of Major Constituent(s):	212°F
Specific Gravity (Water=1) lbs/gal:	1.05
Vapor Pressure (mm Hg) at 100°C:	ND
Vapor Density (AIR=1):	ND
% Volatile:	85
Solubility in Water:	Soluble
Appearance:	Clear Liquid

SECTION IV: FIRE AND EXPLOSION HAZARD DATA	
Flash Point: None	Flammable Limits in Air, % by weight: LEL: ND UEL: ND
Extinguishing Media: Regular Foam or Carbon Dioxide or Dry Chemical	
DOT Proper Shipping/Hazard Name (49 CFR 172.101): Compound, cleaning liquid, 8, NA 1760, III (contains Citric Acid)	
DOT ID# (49 CFR 172.101): NA 1760	
DOT Hazard Class (49 CFR 172.101): Corrosive	
Special Firefighting Procedures: Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires.	
Unusual Fire and Explosion Hazards: None.	

SECTION V: REACTIVITY DATA	
Hazardous Polymerization: Will not occur	
Stability: Material is stable	
Incompatibility (Materials to Avoid): Strong oxidizers, metallic Nitrates.	
Hazardous Decomposition Products: Thermal decomposition results in acid fumes, carbon monoxide, carbon dioxide.	

SECTION VI: HEALTH HAZARD DATA/TOXICITY DATA	
Primary Route of Exposure: Ingestion, inhalation, eyes, skin	
EFFECTS OF ACUTE OVEREXPOSURE: Inhalation: May cause irritation of upper respiratory system, coughing and shortness of breath. Eye Contact: Can cause irritation. Skin Contact: Prolonged or repeated contact can cause moderate irritation, defatting, dermatitis. Ingestion: May cause abdominal pains, nausea, vomiting.	
EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Remove to fresh air. Eye Contact: Flush with water for at least 15 minutes. If irritation persists seek medical attention. Skin Contact: Flush with water then wash with mild soap and water. If irritation persists seek medical attention. Ingestion: Give solution of vinegar and water followed by clear water. Do not induce vomiting. Get medical attention.	
CHRONIC EFFECTS: NA	

PIRANHA III NEUTRALIZER (Pg. 2)

Page 2.

SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb liquid on vermiculite, floor absorbent, or other absorbent material.

Waste Disposal Method: Small Spill: Dispose of remaining material in accordance with applicable regulations. Large Spill: Destroy by incineration.

SECTION VIII: CONTROL MEASURES

RESPIRATORY PROTECTION: If workplace exposure limits of product or any component is exceeded a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure.

VENTILATION: Provide sufficient mechanical ventilation to maintain exposure below TLV.

PROTECTIVE GLOVES: Wear chemical resistant gloves.

EYE PROTECTION: Wear chemical splash goggles.

SPECIAL PRECAUTIONS OR OTHER COMMENTS: Containers of this material may be hazardous when emptied. Emptied containers retain product residues. All precautions given in this data sheet must be observed.

REFERENCES:

1. Sax, N.I., "Dangerous Properties of Industrial Materials", 8th ed., Van Nostrand Reinhold Company Inc., N.Y., 1982.
2. American Conference of Governmental Industrial Hygienists, "TLV's and Biological Exposure Indices" for the current year (published annually).
3. U.S. Code of Federal Regulations (CFR) U.S. Dept. of Labor, No.29, Parts 1900 to 1910.1200. OSHA Communications Standard 29 CFR 1910.1200.
4. Sax, N.I., R.J. "Hazardous Chemicals Desk Reference", Van Nostrand Reinhold Co., Inc., N.Y., 1987.
5. Fire Protection Guide to Hazardous Materials, 10 ed., National Fire Protection Association, Quincy, MA, 1991.
6. Title III List of Lists, U.S. Environmental Protection Agency publication EPA 560/4-90-011, Jan. 1990.

Supplemental Information

to comply with New Jersey DOH Right-To-Know Labeling Law (N.J.A.C. 8:59 -5.1 & 5.2)

HMIS	
HEALTH	1
FLAMMABILITY	0
REACTIVITY	1
PERSONAL	C

CAS No.:

77-92-9
127087-87-0
25322-68-3

Chemical Ingredients:

Citric Acid
Nonylphenol ethoxylate
Polyethylene Glycol

MATERIAL SAFETY DATA SHEET

(Essentially similar to OSHA form 174, Sept. 1985 - For Compliance with OSHA's Hazard Communication Standard, 29CFR 1910.1200)

Section I - Product Identity:

Piranha® III (5730)

Manufacturer's Name:
Rock Technologies, Inc.
100 Putnam Avenue
Cambridge, MA
02139-0802
Mail Address:
P.O. Box 390432
Cambridge, MA 02139-0802

Date of Preparation: February 20, 1997
Information Telephone Number:
(617) 876-8020
Emergency Telephone Numbers:
Weekdays: (617) 876-8020
(After hours, weekends & holidays)
(508) 887-5926, or "CHEM-TEL" Emergency
Contact Number: (800) 255-3924

SECTION II: HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components:	Common Names:	%	ACGIH (TLV-TWA)	OSHA PEL or ACGIH TLV:
*Sodium Hydroxide	(1305-73-2)	<20		2 ppm
Calcium Hydroxide	(1305-62-0)	<30		5 ppm
Magnesium Hydroxide	(1309-42-8)	<10		Not Est.

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Points of Major Constituent:	Not Established	Specific Gravity (H ₂ O=1) Wgt./gal.	1.2 lbs./gal.
Vapor Pressure (mm Hg) @ 100°C	Not Applicable	Melting Point Water (Ice)	N/A
Vapor Density (AIR=1) Heavier Lighter	Not Applicable	Evaporation Rate (Butyl Acetate=1)	1
Solubility in Water	Dispersible	Appearance: Odor:	White Paste Slight odor

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash Point: Applicable	Flammable Limits: LEL: N/A UEL: N/A	DOT Proper Shipping Name: Corrosive liquids, n.o.s. 8	DOT ID#: UN-1760	Marking: "Keep from Freezing"
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Special Firefighting Procedures: Wear NIOSH approved breathing apparatus and full protective gear when fighting fires. Spray containers with water to keep cool and prevent ruptures.

Unusual Fire and Explosion Hazards: Avoid exposure to aluminum, acid products.

SECTION V: REACTIVITY DATA

Hazardous Polymerization: Will not occur

Stability: Material is stable

Incompatibility (Materials to Avoid): Contact with strong acids can cause violent reaction generating large amounts of heat. Aluminum.

Hazardous Decomposition Products: Hydrogen gas

SECTION VI: HEALTH HAZARD DATA/TOXICITY DATA

Primary Route of Exposure: Dermal, Inhalation, Eye

PHYSIOLOGICAL EFFECTS: Inhalation: Aspiration of the product will cause irritation and possible burning of the nose and throat. Eye Contact: This material is an eye irritant and will also cause severe burns. Skin Contact: Will cause severe burns. Ingestion: Ingestion of this product may cause severe burns to internal organs. Inhalation: Aspiration of the product will cause irritation and possible burning of the nose and throat. Chronic Effects: Eye, mucous membrane irritation.

EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Leave contaminated area immediately; breath fresh air. Seek immediate medical attention. Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes and seek medical attention. Skin Contact: Remove contaminated clothing, wash skin with water for 15 minutes. Ingestion: Give large quantities of water. Do not induce vomiting. Seek immediate medical attention.

CHRONIC EFFECTS: Eye, mucous membrane irritation.

SUPPLEMENTAL INFORMATION

To comply with New Jersey DOH Right-To-Know labeling law (N.J.A.C. 8:59 - 5.1 & 5.2)

CAS NO.	CHEMICAL INGREDIENTS
7732-18-5	Water
1305-73-2	Sodium Hydroxide
1305-62-0	Calcium Hydroxide
12-8	Magnesium Hydroxide

HMIS HAZARD RATING			
Health	3	Flammability	0
		Reactivity	1
		Personal Protection	D
HAZARD INDEX			
0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe			
PERSONAL PROTECTION CODE			
D = Face Shield, Synthetic Apron, Gloves			

*Note: This product contains this toxic chemical subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

(#57186)

MATERIAL SAFETY DATA SHEET

SENTINEL CHEMICAL COMPANY, INC.
7714 BEECH STREET, N.E.
MINNEAPOLIS, MN 55432
(612) 571-0630

ISSUE DATE: 1-01-93

PRODUCT NAME: SENTINEL 805 TSP FINAL WASH
CHEMICAL NAME AND SYNONYMS: DETERGENT
24 HOUR EMERGENCY MEDICAL AND SPILL NUMBER: 1-800-228-5635

DOT HAZARDOUS CLASS: NOT A REGULATED MATERIAL
DOT SHIPPING NAME: CLEANING COMPOUND, CLASS 55 NOI

SECTION I HAZARDOUS IDENTIFICATION EXPOSURE LIMITS
TRISODIUM PHOSPHATE e 1003 NUISANCE DUST TLV. TWA 8hr 10 mg/m(3)
This product contains the following chemicals subject to the reporting requirements of SARA 312:
TRISODIUM PHOSPHATE CAS# 010101-89-0

SECTION II EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

If this product comes in contact with eyes, gently flush with large quantities of water for at least 15 minutes. If irritation persists, seek immediate medical attention.

SKIN CONTACT

Remove contaminated clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

INHALATION (breathing)

If breathing difficulties, dizziness, or light-headedness occur when working in areas with high vapor concentration, victims should seek air free of vapors. If breathing stops, begin artificial respiration and seek immediate medical attention.

INGESTION (swallowing)

If this product is swallowed, induce vomiting. Seek immediate medical advice and/or attention.

SECTION III HEALTH HAZARDS/ROUTES OF ENTRY

EYE CONTACT

This product may cause irritation. Direct contact with the liquid or exposure to its vapors or mists may cause burning, tearing or redness.

SKIN CONTACT

This product may cause skin irritation. Prolonged or repeated exposure to this material may cause redness, burning, drying or cracking of the skin or dermatitis. Persons with pre-existing skin disorders may be more susceptible to the effects of this material.

#57186

INHALATION (breathing)

If breathing difficulties, dizziness, or lightheadedness occur when working in areas with high vapor concentrations victim should seek air free of vapors. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and seek immediate medical attention.

INGESTION (swallowing)

If this product is swallowed, induce vomiting. Seek immediate medical advice and/or attention.

COMMENTS

THIS SUBSTANCE HAS NOT BEEN IDENTIFIED AS A CARCINOGEN OR PROBABLE CARCINOGEN BY NTP, IARC, OR OSHA.

SECTION IV SPECIAL PROTECTION INFORMATION

VENTILATION

If current ventilation practices are not adequate for minimizing exposures, additional ventilation or exhaust systems may be required. Other special precautions such as respiratory masks or environmental containment devices may be required in extreme cases.

RESPIRATORY PROTECTION

Respiratory protection may be necessary to minimize exposure to vapors. The use of respiratory protection depends on vapor concentration above the time-weighted TLV; use a NIOSH approved cartridge respirator or gas mask.

PROTECTIVE GLOVES

The use of gloves impermeable to the specific material handled is advised to prevent skin contact and possible irritation.

EYE PROTECTION

Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended.

OTHER PROTECTIVE EQUIPMENT

It is suggested that a source of clean water be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

SECTION V REACTIVITY DATA

STABILITY

Stable

INCOMPATIBILITY (materials to avoid)

None known.

(#57186)

SECTION IX

PHYSICAL DATA

805

PG- 4

APPROX. BOILING POINT-----215-290 DEGREES F.

VAPOR DENSITY (AIR = 1)-----NOT KNOWN

VAPOR PRESSURE-----NOT KNOWN

EVAPORATION RATE-----SLOWER THAN ETHER

VOLATILE-----100%

WEIGHT PER GALLON-----8.6 LBS.

SPECIFIC GRAVITY (TEMP)-----HEAVIER THAN AIR

APPEARANCE-----GREEN

ODOR-----SLIGHT/CHARACTERISTIC

SOLUBILITY IN WATER-----COMPLETE

SECTION X DOCUMENTARY INFORMATION
DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

(457186)

SECTION V REACTIVITY DATA 895 PG. 3
(continued)

HAZARDOUS DECOMPOSITION PRODUCTS

Primarily carbon dioxide and some oxides of sulfur.

HAZARDOUS POLYMERIZATION

Will not occur.

SECTION VI SPILL OR LEAK PROCEDURES

PRECAUTION IN CASE OF RELEASE OR SPILL

Hop up as much as possible, then flush residue with a large volume of water. (Product is biodegradable)

WASTE DISPOSAL METHOD

Dispose of product in accordance with applicable local, county, state and federal regulations.

SECTION VII STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE

Keep containers tightly closed. Keep containers cool and dry.

SECTION VIII FIRE AND EXPLOSION HAZARD

HAZARD RANKING

0-LEAST
1-SLIGHT
2-MODERATE
3-HIGH
4-EXTREME

HEALTH HAZARD: 1

FLAMMABILITY: 0

REACTIVITY: 0

FLASH POINT: NONE TO BOILING

EXTINGUISHING MEDIA

Use foam, CO2 or dry chemical fire fighting apparatus.

FIRE AND EXPLOSION HAZARD

NOT DETERMINED

FIRE FIGHTING PROCEDURES

The use of a self-contained breathing apparatus is recommended for fire fighters. Water may be unsuitable as an extinguishing media, but helpful in keeping adjacent containers cool.

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

SPILAY ADHESIVE
(57002)

IDENTITY AND DISTRIBUTOR'S INFORMATION

NFPA Rating: Health-2; Flammability-4; Reactivity-0; Special-0		HMIS Rating: Health-2; Flammability-4; Reactivity-0; Personal Protection-B	
Manufactured For: Aramsco		DOT Hazard Classification: ORM-D	
Address: 1655 Imperial Way		Identity (trade name as used on label): RAM-TACK	
Address: Thorofare, NJ 08086		MSDS Number: 6365 SBA Revision: 1	
Phone: 1-800-767-6933		Date Prepared: 08/10/95 Prepared By: ES/KD	
Emergency Response Number:		Information Calls: (404)422-2071	
NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA			

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source**
ACETONE	67-64-1	No	1000	750	d
HEXANE	110-54-3	Yes	50	50	d
ISOBUTANE / PROPANE BLEND	75-28-5	No	800	800	d
	74-98-6	No	1000	1000	d

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A	Specific Gravity (H ₂ O=1): Concentrate Only = 0.853
Vapor Pressure: PSIG @ 70°F (Aerosols): Max 80	Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/A
Vapor Density (Air = 1): N/E	Evaporation Rate (= 1): N/E
Solubility In Water: Partial	Water Reactive: NO
Appearance and Odor: Straw colored liquid with ketone solvent odor.	

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) EXTREMELY FLAMMABLE	Auto Ignition Temperature N/E	Flammability Limits in Air by % in Volume: % LEL: N/E % UEL: N/E
FLASH POINT AND METHOD USED (non-aerosols): N/A	SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus. Use water fog to cool containers to prevent rupturing & exploding containers. Provide shielding for personnel.	
EXTINGUISHER MEDIA: Foam, dry chemical, carbon dioxide, water.	Unusual Fire & Explosion Hazards: Do not expose aerosols to temperatures above 130°F or the container may rupture.	

SECTION 4 - REACTIVITY HAZARD DATA

Stability <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE	Hazardous Polymerization <input type="checkbox"/> WILL <input checked="" type="checkbox"/> WILL NOT OCCUR
Compatibility (Mat. to avoid): Strong oxidizing agents.	Conditions to Avoid: Open flame, welding arcs, heat, sparks.
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide.	

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: <input checked="" type="checkbox"/> INHALATION <input type="checkbox"/> INGESTION <input checked="" type="checkbox"/> SKIN ABSORPTION <input type="checkbox"/> EYE <input type="checkbox"/> NOT HAZARDOUS
ACUTE EFFECTS Inhalation: Excessive inhalation of vapors can cause nasal & respiratory irritation, dizziness, weakness, nausea, headache, possible unconsciousness or asphyxiation.
Eye Contact: Irritation. Skin Contact: Irritation due to delatting of skin.
Ingestion: Possible chemical pneumonitis if aspirated into lungs.
CHRONIC EFFECTS: (Effects due to excessive exposure to the raw materials of this mixture) Excessive inhalation of hexane may cause nerve damage.
Medical Conditions Generally Aggravated by Exposure: May aggravate existing eye, skin, or upper respiratory conditions.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes. If irritated, seek medical attention.
Skin Contact: Wash with soap and water. If irritated, seek medical attention.
Inhalation: Remove to fresh air. Resuscitate if necessary. Get medical attention.
Ingestion: DO NOT INDUCE VOMITING. Drink two large glasses of water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): If vapor concentration exceeds TLV, use respirator approved by NIOSH in positive pressure mode.
Protective Gloves: Neoprene. Eye Protection: Safety glasses recommended.
Ventilation Requirements: Adequate ventilation to keep vapor concentration below TLV.
Other Protective Clothing & Equipment: None
Hygienic Work Practices: Wash with soap and water before handling food. Remove contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Absorb with suitable medium. Incinerate or landfill according to local, state or federal regulations. DO NOT FLUSH TO SEWER.
Waste Disposal Methods: Aerosol cans when vented to atmospheric pressure through normal use, pose no disposal hazard.
Precautions To Be Taken In Handling & Storage: Do not puncture or incinerate containers. Do not store at temperatures above 130°F.
Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Avoid food contamination. Avoid breathing vapors. Remove ignition sources.

believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

Appendix

**Lead-Based Paint Management Plan
For
Lead-based Paint Abatement and Disposal
Charleston Naval Shipyard Complex
Officer Single Family Housing
Units J and B**

Prepared by:
Michael D, Mount, CIH, OHST
Manager Health and Safety
Cape Environmental Management Inc
2302 Parklake Drive, Suite 200
Atlanta, Georgia 30345

Lead-Based Paint Management Plan

Date: 10/10/99

This plan has been developed to comply with the OSHA Construction Lead Standard, 29 CFR 1926.62 and serves as the OSHA required written compliance plan.

1. Location of Project:

This job will take place at a private residence located at the Charleston Naval Shipyard Complex Officer Single family Housing, Charleston, SC. A previous lead inspection of this residence was performed by the Supervisor of Shipbuilding, Conversion and Repair, Environmental Detachment, Charleston, South Carolina, revealed that designated architectural components, walls, ceilings and floors in the Officers Quarters are coated with lead-based paint. The existing lead-based paint is deteriorated in places with loose and peeling paint chips. The existing lead-based paint represents a hazard to workers who may disturb it during lead hazard control or renovation activities.

2. Description of the Job:

The Scope of Work for this project includes removal with a caustic solution and wet scraping of various components in the Officers Single Family Housing Quarters of the Complex. The houses (Quarters) are historical buildings and abatement methods must not degrade the historical significance of the surfaces abated.

Remove lead based paint and prepare surfaces for repainting Quarters J and B of the Officer Single Family Housing located at the former Charleston Naval Shipyard Complex. Perform minor repairs as stipulated or necessary to assure compliance with paint manufacture's specification for surface preparation.

Reapply paint to areas indicated. The paint to be applied will be the 20 year encapsulating paint known as Lead Barrier Compound, unless indicated specifically to be "regular" paint. Clean entire areas of the lead based paint removal (abatement) to ensure Lead based paint dust hazards have been eliminated. Conduct clearance testing (dust wipe and soil samples) for lead based paint after abatement is completed.

The abatement job will involve the following treatment as per the Technical Specification for Lead-Based Abatement and Disposal for Charleston Naval Shipyard Complex, Officer Single Family Housing of Contract No. N62467-99-D-1035, Delivery Order No. 0007.

Exterior Treatment:

- **Eaves:** Remove any flaking or peeling LBP and repaint with regular paint only those areas where paint was removed. Abatement Method: wet scrape.
- **Windows:** Plane or strip sash edges, remove LBP only on chewable window surfaces. Abatement Method: removal with caustic solution.
- **Doors:** Plane or strip door edge and remove LBP 2 inches around edge on front and back. Feather and repaint. This eliminates chewable, friction and impact surfaces. Abatement Method: removal with caustic solution.
- **Garage exterior:** Perform surface preparation and paint only as necessary exterior with regular paint. Abatement Method: wet scrape.
- **Screen Porches:** Remove flaking or peeling LBP paint and repaint with regular paint. Abatement Method: wet scrape.
- **Exterior Screen Doors:** Remove and replace unless door has historic features. Abatement Method: removal with caustic solution.

Interior Treatment:

- **Walls :** Remove any flaking or peeling LBP. Surface preparation will include removing flaking or peeling LBP and encapsulate 5 feet up from floor (impact surface). Abatement Method: wet scrape.
- **Baseboards:** Perform surface preparation and paint only as required. Surface preparation will include removing flaking or peeling LBP and encapsulate (impact surface). Abatement Method: wet scrape.
- **Windows:** Plane or strip sash edges, remove LBP only on chewable window surfaces. Abatement Method: removal with caustic solution.
- **Doors:** Plane or strip door edge and remove LBP 2 inches around edge on front and back. Feather and repaint. This eliminates chewable, friction and impact surfaces. Abatement Method: removal with caustic solution.
- **Bathroom vanity:** Strip LBP 2 inches from edge of vanity and encapsulate. Abatement Method: removal with caustic solution.
- **Ceiling:** Remove any flaking or peeling LBP and repaint with regular paint. Abatement Method: wet scrape.

All surfaces will be encapsulated with non-lead latex paint and or a lead-based paint encapsulant.

3. Equipment and Materials:

“LBC” encapsulant, “Peel Away” paint stripper, HEPA vacuums, Lead Dissolve cleaning agent, disposable clothing, cotton work gloves, nitrile gloves, electric power saws, hammers, wrecking bars, pry bars, screwdrivers, plastic sheeting, scrapers, and other hand tools as needed.

4. Crew:

The replacement of windows and encapsulation enclosure will each be completed by a crew of:

No.	Position	Assignment
6	Worker	Removal, encapsulation, cleaning and packaging LBP, and debris
1	Supervisor	Supervises the crew
1	Project Manager	Overall Project Management

5. Competent Person:

Mr. Mayro Hidalgo, a licensed lead abatement supervisor, will be onsite at all times and will act as the competent person for lead safety issues. Mr. Hidalgo’s lead supervisor license number is 96006. Mr. Hidalgo will conduct daily inspections of the work areas to ensure that control measures, work practices, personal protective equipment and hygiene facilities are used as prescribed in this document.

6. Control Measures

The primary control method for this project is chemical removal with subsequent encapsulation.

During chemical removal, architectural components will be wetted with “Peel Away” prior to removing the paint. Paint will be removed to the wood substrate. Generation of airborne dust is not expected. During both scraping or sanding all surfaces will be wetted. All debris will be wetted down before handling. Wet methods (mopping) and HEPA vacuums will be used during cleaning to minimize worker exposures to lead.

To reduce generation of leaded dust in the work areas, paint chips and dust will be vacuumed on at least a daily basis with HEPA-filtered vacuums. Final cleaning will be

accomplished by cleanings consisting of HEPA vacuuming alternated with wet mopping with Lead Dissolve solution. The use of HEPA vacuums and wet cleaning methods will minimize worker lead exposures.

7. Technology Considered in Meeting the Permissible Exposure Limit:

The HUD *Guidelines for Evaluation and Control of Lead Hazards in Housing* and other publications were reviewed to determine the appropriate engineering controls to be used in this project. The specialized equipment that will be utilized for this project are HEPA-filtered vacuum cleaners and air-powered water pumps attached to aerosol-generating nozzles (for water misting of surfaces). HEPA-filtered exhaust ventilation fans will be utilized used to prevent migration of lead containing dust to areas outside the containment.

Removal methods utilized during this project will be non-dust generating both chemical removal and wet scrape methods will be utilized. Based on the exposures documented during the abatement of other housing units at the Charleston Naval Shipyard, similar in design and construction, exposure are not anticipated to be in excess of the Permissible Exposure Limit (PEL).

8. Respirators:

All individuals in the work area will be provided with a half-mask, air-purifying respirator equipped with HEPA cartridges. Respirators will be provided in the context of a complete respiratory protection program. See attachment A for a copy of CAPE's Written Respirator Program.

Respirators will be required during paint removal, surface preparation for encapsulation, any sawing or use of power tools, manual scraping, cleaning activities, and final cleanup. Respirator use during other activities, including initial setup (such as laying down plastic for containment), and enclosure and encapsulation after surface preparation is not necessary, *unless* other workers nearby (same interior room or outside wall) are performing activities for which respirators are required.

9. Protective Clothing:

Disposable protective clothing will be worn at all times inside the work area. Protective clothing will be made of breathable fabric to reduce the potential for worker heat stress. If visibly contaminated with paint dust or chips, protective clothing will be vacuumed before it is removed.

10. Hygiene Facilities:

A three stage decontamination unit (decon) will be used to decontaminate workers. The decon will be located at one or more of the entrances to consist of a clean room, shower room and dirty room and benches. Labeled plastic bins with covers will be used to

separate disposable protective clothing from street clothing. Hot water, soap, and towels will be provided. Hands and face will be washed before all breaks and at the end of the day. Wastewater will be collected, pretreated onsite with filtration, and disposed of in accordance with prior arrangements made with the Municipal Wastewater Treatment Facility.

11. Air Monitoring Data:

CAPE has performed lead paint abatement using the techniques described in this plan. Therefore, CAPE has exposure assessment or prior air monitoring data to estimate potential worker exposures. Since the removal will be accomplished using wet methods, airborne concentrations of lead are not expected to exceed the action level of 30 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$). Air monitoring will be conducted at the beginning of the project to establish worker exposures and determine appropriate respirator selection. Air monitoring will be conducted in accordance with OSHA 1926.62 paragraph (d) and the written sampling plan presented in Attachment B.

12. Medical Surveillance Program:

A medical surveillance program is already in place for this work crew. It is supervised by Dr. Jeff Dutton, a board certified occupational health physician with Concentra Medical Centers. (phone 770-242-7744). Worker blood lead levels are measured initially before beginning the project and at the end of the project. Blood lead levels for current employees who will be assigned to this job are 2-18 $\mu\text{g}/\text{dL}$. Worker blood lead increase of 15 $\mu\text{g}/\text{dl}$ or more will trigger an investigation of protective equipment and work practices. All workers on this project are informed of their blood lead levels as soon as they are received.

13. Training:

All workers, supervisors, and IH Competent Person(s) have been trained in accordance with the requirements of 29 CFR Part 1926, Sections 62 and 59; 29 CFR Part 1910.120(e); and 49 CFR Part 172, and those required by EPA or the state LBPA course for the work to be performed. Training will be provided prior to the time of job assignment and at least annually thereafter (if required by regulations). Training certificates will be available onsite from the project manager.

14. Waste Management Plan:

LBP debris and items (rags, filters, etc.) potentially contaminated with lead will be treated as lead contaminated and disposed of as lead contaminated waste (LCW). LCW will be segregated according to the type of waste and likelihood of contamination. (i.e. Paint debris will be placed in one container and all other potentially contaminated materials will be placed in another container.)

The containers will consist of plastic lined 55-gallon steel drums. LWC will be placed in the plastic liners and transferred to the steel drums prior to removal from the work area. The drums will be labeled lead containing waste and moved to a temporary storage area located between each house. The storage area will be marked with red danger tape. 00

Contaminated waste

Lead-contaminated waste, scrap, and debris will be disposed of as follows:

- Lead-contaminated waste, scrap, debris, bags, containers, equipment, and lead-contaminated clothing,, which may produce airborne concentrations of lead particles will be stored in U.S. Department of Transportation 49 CFR Part 178 approved 200 liter (55 gallon) drums. Each drum will be labeled to identify the type of waste as defined in 49 CFR Part 172 and the date lead-contaminated wastes were first put into the drum. Uniform Hazardous Waste Manifest forms from federal and state agencies will be obtained and completed. Hazardous and non-hazardous waste will be coordinated with SPORTENVDETHASN. Dumpsters and drums will be provided and Lead-Based Paint Abatement Project Manager contacted to coordinate pickup. Lot deliveries of hazardous wastes will be made as needed to ensure that drums do not remain on the work site longer than 90 calendar days from the date affixed to each drum.
- Lead-contaminated waste will be handled, stored, transported, and disposed of in accordance with 40 CFR Parts 260, 261, 262, 263, 264, and 265. Land disposal restriction notification will be as required by 40 CFR Part 268.

Disposal documentation

Written evidence that the hazardous waste treatment, storage, or disposal facility is approved for lead disposal by the EPA and state or local regulatory agencies will be provided. One copy will be submitted of the completed manifest, signed, and dated by the initial transporter in accordance with 40 CFR Part 262.

Uncontaminated waste

The contractor will be responsible for the segregation, storage (on site), and disposal of all uncontaminated solid waste. Disposal will be in accordance with all local, state, and federal regulatory requirements.

15. Emergency Response Plan:

All accidents will be reported the Project manager immediately. In the event of a serious accident or injury contact the numbers listed in The Emergency Response Plan presented in Attachment C.

Workers will be trained in the procedures to follow in the event of an emergency. The following emergencies may be anticipated during this project

Attachment A

Respiratory Protection Program

Respiratory Protection Program

This program has been developed to comply with 29 CFR 1910.134 Respiratory Protection..

B. SCOPE AND APPLICATION

This program applies to all employees who are required to wear respirators during normal work operations, and during some non-routine or emergency operations such as a spill of a hazardous substance. All employees working in or around hazardous or toxic materials must be enrolled in the company's respiratory protection program. The program was last revised in March of 2000.

Employees participating in the respiratory protection program do so at no cost to them. The expense associated with training, medical evaluations and respiratory protection equipment will be paid by CAPE.

C. RESPONSIBILITIES

1. Program Administrator

The Program Administrator is responsible for developing, monitoring, revising and administering the respiratory protection program. He may administer by delegating his duties to qualified individuals working under his direction. Duties of the program administrator include:

- Assisting safety specialist, Site Safety Officer and Supervisors in identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards.
- Selection of respiratory protection options.
- Evaluating the effectiveness of the program through audits of site work and documentation.
- Updating the written program based on periodic evaluations.

The Respiratory Program Administrator for CAPE is the Corporate Safety and Health Manager.

2. Safety Specialist

Respiratory Protection Program

Each Safety Specialist at CAPE area or regional offices will assist the Program Administrator in implementing the Respiratory Protection Program at that location. Specific duties of the Safety Specialist include:

- Monitoring respirator use to ensure that respirators are used in accordance with their certifications.
- Arranging for and/or conducting training.
- Conducting spot checks to determine proper use, storage and maintenance of respiratory protection equipment and documentation of fit tests and medical evaluations.
- Conducting respirator fit tests.
- Maintaining records required by the program.
- Compiling and forwarding fit test and training records to the Program Administrator.

3. Project Superintendents/Project Managers/Project Leads

Supervisors are responsible for ensuring that the respiratory protection program is implemented on their job sites. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge.

Duties of the supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training, fit testing, and medical evaluations prior to being placed on job sites.
- Ensuring the availability of appropriate respirators and accessories.
- Being aware of tasks requiring the use of respiratory protection.
- Enforcing the proper use of respiratory protection.
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection plan.
- Ensuring that respirators fit well and do not cause discomfort.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

Respiratory Protection Program

4. Employees

Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained. Employees must also:

- Care for and maintain their respirators as instructed, and store them in a clean sanitary location.
- Inform their supervisor if the respirator no longer fits well or is in need of repair, and request a new one that fits and works properly.
- Inform supervisor of any changes in their physical facial features that may affect respirator fit or function such as dental work, weight change or vision correction.
- Inform their supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the program.

D. PROGRAM ELEMENTS

1. Selection Procedures

The Program Administrator or his designee will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with all OSHA standards. The selection process includes conducting a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency. The hazard evaluation will include:

- 1) Identification and development of a list of hazardous substances used at the jobsite or in the work process.
- 2) Review of work processes to determine where potential exposures to these hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing records, and talking with employees and supervisors.
- 3) Exposure monitoring to evaluate and document actual hazardous exposures. Monitoring will be conducted by qualified personnel.

Respiratory Protection Program

2. Hazard Assessment

Hazard assessments will be performed prior to performing field activities. The hazard assessment must be revised and updated any time work process changes may potentially affect exposure. If an employee feels that respiratory protection is needed during a particular activity, he/she is to contact his or her supervisor immediately. The Supervisor will evaluate the potential hazard and will arrange for outside assistance as necessary. The Supervisor will then communicate the results of that assessment back to the employees and the Program Administrator. If it is determined that respiratory protection is necessary, all other elements of this program will be in effect for those tasks and this program will be updated accordingly. If any employee feels risks are not properly evaluated they should immediately contact the Program Administrator.

3. NIOSH Certification

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while it is in use.

4. Medical Evaluation

Employees who are either required to wear respirators, must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician or a licensed healthcare professional (PLHCP) has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the respiratory protection standard. The Corporate Occupational Medical Physician (COMP) or PLHCP will provide a copy of this questionnaire to all employees before the physical exam.
- To the extent feasible, the company will assist employees who are unable to read the questionnaire (by providing help in reading the questionnaire).
- Medical exams will be granted to employees as required by the standard,

Respiratory Protection Program

and/or as deemed necessary by the COMP or PLHCP.

- All employees will be granted the opportunity to speak with the PLHCP about their medical evaluation, if they so request.
- The Program Administrator has or will provide the PLHCP with a copy of this program, a copy of the Respiratory Protection Standard, the list of hazardous substances by work area, and for each employee requiring evaluation: his or her work area or job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Any employee required for medical reasons to wear a positive pressure air-purifying respirator will be provided with a powered air-purifying respirator. For areas normally classified for negative pressure respirators or assumed to areas that don't require respirator use.
- After an employee has received clearance and has begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
 - Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
 - The PLHCP or supervisor informs the Program Administrator that the employee needs to be reevaluated;
 - Information from this program, including observations made during fit testing and program evaluation, indicates a need for re-evaluation;
 - A change occurs in workplace conditions that may result in an increased physiological burden on the employee.
 - All examinations and questionnaires are to remain confidential between the employee and the COMP or PLHCP except for the COMP's or PLHCP's written opinions on work restrictions.

5. Fit Testing

Fit testing is required for employees wearing half-facepiece or full facepiece respirators.

Employees who are required to wear respirators will be fit tested using one of the methods listed in Appendix A of 29 CFR 1910.134, "Fit Testing Procedures (Mandatory)":

- Prior to being allowed to wear any respirator with a tight fitting facepiece.

Respiratory Protection Program

- Annually.
- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Several models and sizes of respirators will be made available for fit testing so that they may find an optimal fit. Fit testing of PAPRs is to be conducted in the negative pressure mode. The Program Administrator or his designee will conduct fit tests following the OSHA approved QLFT (qualitative fit test) protocol in Appendix A of the Respiratory Protection Standard.

The Program Administrator has determined that quantitative fit test (QNFT) is not required for the respirators used under current conditions at CAPE. If conditions affecting respirator use change, the Program Administrator will evaluate on a case-by-case basis whether QNFT is required.

E. RESPIRATOR USE

Respiratory protection is required for all personnel engaged in field activities where potential exposure to toxic hazardous substances or waste exists.

1. General Use Procedures:

- Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.
- All employees shall conduct user seal checks each time that they don their respirator. Employees shall use either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respiratory Protection Standard.
- All employees shall be permitted to leave the work area to go to maintain their respirator for the following reasons: to clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisor before leaving the area.
- Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures, that prevents

Respiratory Protection Program

them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles that may interfere with the facepiece-to-face seal.

2. Emergency Procedures:

Emergency procedures will be developed for site-specific situations.

3. Respirator Malfunction

a. APR Respirator Malfunction:

For any malfunction of an APR (e.g., such as breakthrough, facepiece leakage, or improperly working valve), the respirator wearer should inform his or her supervisor that the respirator no longer functions as intended, and go to the designated safe area to maintain the respirator. The supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

b. Atmosphere-Supplying Respirator Malfunction:

All workers wearing supplied-air respirators (SAR) will work with a buddy. Buddies shall assist workers who experience an SAR malfunction as follows:

If a worker experiences a malfunction of a SAR, he or she should signal to the buddy that he or she has had a respirator malfunction. The buddy aid the worker in immediately exiting the work area.

4. IDLH Procedures

The Program Administrator has identified the following area as presenting the potential for IDLH conditions:

Confined Space:

Workers will be periodically required to enter the confined spaces to perform their duties. In such cases, workers will follow the permit required confined space entry procedures specified in CAPE's Confined Space Program. As specified in these procedures, the actual hazard will be assessed before entering the space. In addition, an appropriately trained and equipped standby person shall remain outside the space and maintain constant communication with the worker. In the event of an emergency requiring rescue, the standby person will immediately initiate the call for rescue operations in accordance with rescue procedures

Respiratory Protection Program

outlined in the Confined Space Program.

F. AIR QUALITY

Grade D breathing air shall be used in the cylinders or be provided by compressor systems for supplied-air respirators. If necessary, the Job Superintendent will coordinate deliveries of compressed air with the company's vendor and require the vendor to certify that the air in the cylinders meets the specifications of Grade D breathing air.

G. CLEANING, MAINTENANCE, CHANGE SCHEDULES AND STORAGE

1. Cleaning

- Respirators are to be regularly cleaned and disinfected.
- Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary.
- SAR's and emergency use respirators are to be cleaned and disinfected after each use.
- The following procedure is to be used when cleaning and disinfecting respirators:
 - Disassemble respirator, removing any filters, canisters, or cartridges.
 - Wash the facepiece and associated parts in a mild detergent with warm water. Do not use organic solvents.
 - Rinse completely in clean warm water.
 - Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
 - Air-dry in a clean area.
 - Reassemble the respirator and replace any defective parts.
 - Place in a clean, dry plastic bag or other airtight container.

Note: The Supervisor will ensure an adequate supply of appropriate cleaning and disinfecting materials at the job site. If supplies are low, employees should contact their supervisor.

a. Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employee.

Respiratory Protection Program

Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer. Repairs to regulators or alarms of atmosphere-supplying respirators will be conducted by the manufacturer.

The following items/parts will be inspected before each use of a respirator:

- Facepiece: cracks, tears, or holes; facemask distortion; cracked or loose lenses/facemask
- Headstraps: breaks, tears or loss of elasticity; broken buckles
- Valves: residue or dirt; cracks, tears or loss of elasticity in valve material
- Filters/Cartridges: approval designation; gaskets; cracks or dents in housing; proper cartridge for hazard; end of use indicator
- Air Supply Systems: breathing air quality/grade; condition of supply hoses; hose connections; settings on regulators and valves.

Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards. Situations when this is permitted include to wash their face and respirator facepiece to prevent any eye or skin irritation, to replace the filter, cartridge or canister, and if they detect vapor or gas breakthrough or leakage in the facepiece or if they detect any other damage to the respirator or its components.

3. Change Schedules

Employees wearing APRs or PAPRs with P100 filters for protection against particulate (asbestos, lead, etc.) shall change the cartridges on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks or more often as required by project specifications or site specific plans. Organic vapor cartridges or other similar type cartridges changes will have a change schedule developed by a Safety Specialist based on anticipated concentrations and capacities recommend by the cartridge manufacturer the schedule will be printed in a project specific Site Safety and Health Plan.

4. Storage

Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this program and

Respiratory Protection Program

will store their respirator in a plastic bag kept in their possession. Each employee will have his/her name on the bag and that bag will only be used to store that employee's respirator.

The Program Administrator or his designee will store CAPE's supply of respirators and respirator components prior to issue to employees in their original manufacturer's packaging.

5. Defective Respirators

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his or her supervisor. The Supervisor will decide whether to:

- Temporarily take the respirator out of service until it can be repaired.
- Perform a simple fix on the spot such as replacing a headstrap.
- Dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged with "Do Not Use" printed on the tag, and the employee will be given a replacement of similar make, model, and size. All tagged out respirators will be evaluated by a qualified inspector to determine whether they can be used for spare parts or disposed of immediately.

H. TRAINING

The Program Administrator or his designee will provide training to respirator users and their supervisors on the contents of the Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection standard. Workers will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace and prior to supervising employees that must wear respirators.

The training course will cover the following topics:

- CAPE's Respiratory Protection Program
- the OSHA Respiratory Protection Standard
- potential respiratory hazards and their health effects
- proper selection and use of respirators

Respiratory Protection Program

- limitations of respirators
- respirator donning and user seal (fit) checks
- fit testing
- emergency use procedures
- maintenance and storage
- medical signs and symptoms limiting the effective use of respirators

Employees will be retrained during annual fit testing or as needed. Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises. The Safety Specialist will document respirator training on the fit test form. The documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

I. PROGRAM EVALUATION

The Program Administrator and his designees will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and a review of the air monitoring records. Problems identified will be noted in an inspection log and addressed by the Program Administrator. These findings will be reported to management, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

J. DOCUMENTATION AND RECORD KEEPING

A written copy of this program and the OSHA standard is to be kept in the Program Administrator's office and each location of and shall be available to all employees who wish to review it. Also maintained in the Program Administrator's office are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

The Program Administrator will also maintain copies of the medical records for all employees covered under the respirator program. The completed medical questionnaire and the physician's documented findings are confidential and will remain at the medical clinic. The company will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.

Attachment B
Standard Operating Procedures (SOP's)

STANDARD OPERATING PROCEDURES

Lead Wipe Sampling

OSFH, Charleston Naval Shipyard

Prepared by Michael D. Mount, CIH, OHST

Materials: Non lanolin baby wipes (it best to call lab and follow their recommendation for brand), ruler or measuring tape, masking tape, sharpie pen and zip lock type storage bags

Method: HUD Protocol. (See attached HUD sampling guidelines).

I) Pre-Abatement

A) Collect wipe samples at the following locations:

- 1) Outside the lead based paint control area (LBPCA) at critical barriers (within 10 feet of barrier).
- 2) Clean Room or change area or wash area.
- 3) Travel path used by lead workers to and from the work area

II) Post-Abatement

A) Collect wipe samples at the following locations in each abated house for "on site paint removal in limited areas".

- 1) One sample from a window sill or one sample from a window well for a total of four window sill and window well samples.
- 2) One sample from the floor of the rooms with windows sampled for a total of four floor samples.
- 3) Outside the containment near pre-abatement location within 10 feet of the barrier (in only 20% of the units)

B) Collect wipe sample(s) at the following location in each abated area for "Replacement and/or encapsulation only in limited areas".

- 1) Three wipe composite sample divided equally between window wells, window sills and floors.
- 2) Outside the containment near pre-abatement locations within 10- feet of a barrier (in only 20% of the units).

C) Collect wipe sample(s) at the following locations in each abated area for "Exterior abatement".

- 1) One wipe from a horizontal surface such as a swing, railing or floor within the area abated.
- 2) One window trough composite if not sampled for interior clearance.

Table 15.1 Recommended Minimum Number and Location of Single-Surface Dust Samples

Clearance Category	Category Description	Number and Location of Single-Surface Wipe Samples in Each Area ¹	Number and Location of Composite Wipe Samples
1	Interior treatments No containment within dwelling	Two dust samples from at least four rooms in dwelling (whether treated or untreated): <ul style="list-style-type: none"> ◆ One interior window sill or window trough, alternating between rooms. ◆ One floor. AND <ul style="list-style-type: none"> ◆ For common areas, one for every 2,000 ft² of a common area room floor (if present). 	Three composite samples for every batch of four rooms (whether treated or untreated): <ul style="list-style-type: none"> ◆ One floor composite. ◆ One interior window sill composite. ◆ One window trough composite. AND <ul style="list-style-type: none"> ◆ For common areas, one floor subsample for every 2,000 ft² (if present); up to 8,000 ft² can be sampled for each composite.
2	Interior treatments With containment (plastic sheeting as airlock on doors between treated and untreated areas)	Same as Category 1 but only in every <i>treated</i> room (up to four rooms) AND One floor sample outside the containment area but within 10 feet of the airlock to determine the effectiveness of the containment system. This extra single-surface sample is recommended in 20 percent of the treated dwellings in multifamily housing and <i>all</i> single-family homes. <ul style="list-style-type: none"> ◆ For common areas, one floor sample for every 2,000 ft² and one floor sample outside containment. 	Same as Category 1 but only in every <i>treated</i> room AND One floor sample outside the containment area but within 10 feet of the airlock to determine the effectiveness of the containment system. This extra single-surface sample is recommended in 20 percent of the treated dwellings in multifamily housing and <i>all</i> single-family homes. <ul style="list-style-type: none"> ◆ For common areas, one floor subsample for every 2,000 ft² (up to 8,000 ft² for each composite) and one floor sample outside containment.
3	Exterior treatments	Two dust samples as follows: <ul style="list-style-type: none"> ◆ At least one dust sample on a horizontal surface in part of the outdoor living area (e.g., a porch floor or entryway). ◆ One window trough sample on each floor where exterior work was performed. An additional trough sample should be collected from a few lower floors to determine if troughs below the area were contaminated by the work above. 	Two dust samples as follows: <ul style="list-style-type: none"> ◆ One composite on a horizontal surface in part of the outdoor living area (e.g., a porch floor or entryway). ◆ One window trough composite for every four floors where exterior work was performed, including lower floors where exterior work was not done, if present.
4	Routine maintenance work	At least 1 floor dust sample for every 20 high-hazard jobs near the work area (see Chapter 17 for definition of "high hazard").	Same as single-surface sampling.
5	Soil treatment	One dust sample from the entryway.	One dust sample from the entryway.

¹ A room includes a hallway or a stairway. If no window is present, collect just one floor sample. When a closet is treated, the room to which it is attached should be tested. A closet is not considered to be a separate room. If all rooms received similar treatments and cleaning, only four rooms need to be sampled for clearance purposes. More rooms may need to be sampled in larger dwellings. The room to be sampled should be selected based on where most of the dust-generating work was done in the judgment of the clearance examiner.

STANDARD OPERATING PROCEDURES

Soil Sampling

OSFH, Charleston Naval Shipyard

Prepared by Michael D. Mount, CIH, OHST

Sampling Protocol: Lead Based Paint Risk Assessment Model Curriculum (attached)

Materials: Zip lock bags, latex gloves, wide mouth jars, plastic spoon
(Check with lab for proper sampling containers, they may supply for free)

- I) Pre-Abatement Composite soil samples will be collected near the immediate area of abatement using EPA Method 7240 from:
 - A) Two building drip lines on each side of the building being abated.
 - 1) Use plastic spoon for each sample to collect the top $\frac{1}{2}$ inch of soil.
 - 2) Collect 3 to 10 sub samples along the drip line roughly an equal distance from each other (approximately 4 feet apart).
 - 3) Collect a total of 10 grams (about a tablespoon full) of soil for analysis.

STANDARD OPERATING PROCEDURES
Personal Air Monitoring
OSFH, Charleston Naval Shipyard
Prepared by Michael D. Mount, CIH, OHST

Sampling Method – OSHA Technical Manual, Personal Monitoring for Air Contaminants

Analytical Method – NIOSH 7300

Materials: Personal air sampling pump, tubing, and 37 mm closed face cassette, precision rotometer and watch.

- A) During the 1st full day of chemical stripping and wet scraping/sanding the following personal samples will be collected to indicate worker exposure to airborne lead.
- 1) Collect samples in breathing zone of employee.
 - 2) Sample volumes should be greater than 1000 liters and collected at 1-4 L/m
 - 3) Sampling times should reflect 8-hour TWA's or at least 7 hours of an 8 hour work shift or 9 hours of a 10 hour work shift.
 - 4) Sampling strategies and should comply with OSHA 1926.62 paragraph (d). Sample results should represent the highest expected exposure to each type of work being conducted and should be representative of a full shift exposure on at least two employees.

Attachment C
Emergency Response Plan

EMERGENCY PHONE LIST

Serious Accident- Dial 911

**Roper North Hospital
Emergency Room - (843)-745-2787**

**Project Address – 1455 Hobson Avenue
Charleston Navy Shipyard
North Charleston, S.C.**

Other Emergency Phone No.'s

Job Site: 1 (843) 744 1230

Supervisor: Mayro Hidalgo - 1 (800) 590 3560 (pg)

Supervisor: Jesus Uriosti – 1 (800) 5903583 (pg)

**Onsite Project Manager – Howard Frost – (770) 377-0532 (cell)
1-877-344-3307 (pager)**

Office Project Manager - Jeff Shannon (877) 541-0571(pg)

Appendix A

Results of
Air Monitoring Analysis



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAPE Environmental
 Address 2302 Parklane Dr.
ATLANTA GA

Special requests:
 Verbal results _____
 Fax report 744-1230
 Fax # 744-1230
 Results needed by: 3 day

Project No. <u>90033.103</u>	Sample Type <u>Lead AIR</u>	# of Samples <u>9</u>	P.O.
Contact Name <u>ROBERT BERSKY</u>	Phone No. <u>744-1230</u>	Date Shipped	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
✓	11-11-01	1155	11-11-99	37mm	AIR
✓	11-11-02	—	↓	↓	↓
✓	11-11-03	—	↓	↓	↓
✓	11-15-01	1008	11-15-99	37mm	AIR
✓	11-15-02	—	↓	↓	↓
✓	11-15-03	—	↓	↓	↓
✓	11-16-01	1016.4	11-16-99	37mm	AIR
✓	11-16-02	—	↓	↓	↓
✓	11-16-03	—	↓	↓	↓

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>ROBERT BERSKY</u> Date/Time <u>11-17-99</u>	Received by: _____ Date/Time _____
	Relinquished by: _____ Date/Time _____	Received at Lab by: <u>M. Wright</u> Date/Time <u>11/17/99 1545</u>
Authorized by: <u>Robert Bersky</u> Date <u>11-17-99</u>	Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)	

(Client Signature Must Accompany Request)



CLIENT: CAPE Environmental
2302 Parklake Drive STE 200
Atlanta, GA 30345
ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9911090
Received: 11/18/1999 8:01:00 AM
Received by: Pfaff J
Validated: 11/22/1999 8:32:00 AM
Validated by: Pfaff J
Approved: 11/22/1999 8:32:00 AM
Approved by: Pfaff J

Client Sample ID: 11-11-01		Collection Date: 11/11/1999		
Azimuth ID: 9911090-01		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1155 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.3 ug/m3

Client Sample ID: 11-11-02		Collection Date: 11/11/1999		
Azimuth ID: 9911090-02		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-11-03		Collection Date: 11/11/1999		
Azimuth ID: 9911090-03		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-15-01		Collection Date: 11/15/1999		
Azimuth ID: 9911090-04		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1008 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<5ug/m3

Client Sample ID: 11-15-02		Collection Date: 11/15/1999		
Azimuth ID: 9911090-05		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-15-03		Collection Date: 11/15/1999		
Azimuth ID: 9911090-06		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-16-01		Collection Date: 11/16/1999		
Azimuth ID: 9911090-07		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1016.4 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	6.8 ug	6.7ug/m3

Client Sample ID: 11-16-02		Collection Date: 11/16/1999		
Azimuth ID: 9911090-08		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

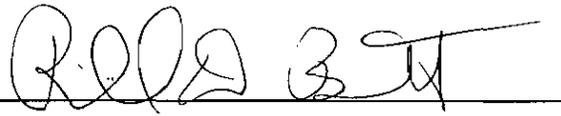
Client Sample ID: 11-16-03		Collection Date: 11/16/1999		
Azimuth ID: 9911090-09		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Final Approval: 

Date: 11/29/99



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAGE Environmental
 Address 2302 PARKWAY 12th
ATLANTA GA

Special requests:
 Verbal results 744-1230
 Fax report _____
 Fax # 744-1230
 Results needed by: 3 day

Project No. <u>90033.103</u>	Sample Type <u>Lead</u>	# of Samples <u>9</u>	P.O.
Contact Name <u>Robert M Beahy</u>	Phone No. <u>744-1230</u>	Date Shipped <u>11-23-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
✓	11-17-01	1245.3	11-17-99	37mm	Lead in Air
✓	11-17-02	n/a	11-17-99	↓	
✓	11-17-03	n/a	11-17-99	↓	
NOT Labeled	11-18-01	1018.5	11-18-99	37mm	Lead in Air
	11-18-02	n/a	11-18-99	↓	↓
	11-18-03	n/a	11-18-99	↓	↓
✓	11-22-01	1230.6	11-22-99	37mm	Lead in Air
✓	11-22-02	n/a	11-22-99	↓	
✓	11-22-03	n/a	11-22-99	↓	

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u> Date/Time <u>11-23-99</u>	Received by: <u>[Signature]</u> Date/Time _____
	Relinquished by: _____ Date/Time _____	Received at Lab by: <u>[Signature]</u> Date/Time <u>11/23/99</u>
	Method of Shipment: _____	Sample Condition Upon Receipt: <input type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)
Authorized by: <u>[Signature]</u> Date <u>11-23-99</u>	(Client Signature Must Accompany Request)	



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9911109
Received: 11/23/1999 10:51:00 AM
Received by: Pfaff J
Validated: 11/29/1999 3:55:00 PM
Validated by: Pfaff J
Approved: 11/29/1999 3:55:00 PM
Approved by: Pfaff J

Client Sample ID: 11-17-01		Collection Date: 11/17/1999		
Azimuth ID: 9911109-01		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1245.3 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4 ug/m3

Client Sample ID: 11-17-02		Collection Date: 11/17/1999		
Azimuth ID: 9911109-02		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-17-03		Collection Date: 11/17/1999		
Azimuth ID: 9911109-03		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-18-01		Collection Date: 11/18/1999		
Azimuth ID: 9911109-04		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1018.5 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.9 ug/m3

Client Sample ID: 11-18-02		Collection Date: 11/18/1999		
Azimuth ID: 9911109-05		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-18-03		Collection Date: 11/18/1999		
Azimuth ID: 9911109-06		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-22-01		Collection Date: 11/22/1999		
Azimuth ID: 9911109-07		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1230.6 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.1 ug/m3

Client Sample ID: 11-22-02		Collection Date: 11/22/1999		
Azimuth ID: 9911109-08		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 11-22-03		Collection Date: 11/22/1999		
Azimuth ID: 9911109-09		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Final Approval: Sonja M. Guiggan, Lab Manager

Date: December 1, 1999



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAPE Environmental
 Address 2302 PARKLANE DR
DECATUR GA

Special requests:
 Verbal results _____
 Fax report 744-1230
 Fax # 744-1230
 Results needed by: 12-28-99

Project No. <u>90033-103</u>	Sample Type <u>Lead AIR</u>	# of Samples	P.O.
Contact Name <u>ROBERT BORSLEY</u>	Phone No. <u>744-1230</u>	Date Shipped <u>12-21-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	12-13-01	1152.9	12-13-99	37 mm	Lead in Air
	12-13-02	Blank	↓	↓	↓
	12-13-03	Blank	↓	↓	↓
4 ✓	12-14-01	861	12-14-99	37 mm	Lead in Air
5 ✓	12-14-02	N/A	↓	↓	↓
6 ✓	12-14-03	N/A	↓	↓	↓
7 ✓	12-15-01	1022.9 ¹⁷ 1229.0	12-15-99	37 mm	Lead in Air
8 ✓	12-15-02	↓	↓	↓	↓
9 ✓	12-15-03	↓	↓	↓	↓
no plugs 10 ✓	12-16-01	1134.0 1008.0	12-16-99	37 mm	Lead in Air
11 ✓	12-16-02	↓	↓	↓	↓
12 ✓	12-16-03	↓	↓	↓	↓
no plugs 13 ✓	12-20-01	1018.5	12-20-99	37 mm	Lead in Air
14 ✓	12-20-02	↓	↓	↓	↓
15 ✓	12-20-03	↓	↓	↓	↓

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u> Date/Time <u>12-21-99</u>	Received by: _____ Date/Time _____
	Relinquished by: _____ Date/Time _____	Received at Lab by: <u>M. Stephens</u> Date/Time <u>12/21/99 1220</u>
	Method of Shipment: _____	Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)
Authorized by: <u>[Signature]</u> Date <u>12-21-99</u>	(Client Signature <u>Must</u> Accompany Request)	



Client Name: CITAS NAV Base
 Project Name/Number: 9001 .103
 Date Collected: 12-20-99 Shift: NT
 Project Location: Housing Unit B

SUMMARY OF
 LEAD
 MONITORING
 RESULTS

SAMPLE TYPE: AIR WATER TCLP

SAMPLE	TYPE	DESCRIPTION/LOCATION	AIR							Water CONC. (mg/L)	TCLP CONC. (mg/L)	Reg. Limit CONC. (mg/L)		
			FLOW (L/m)		TIME			VOLUME (L)	AMOUNT (ug)				CONC. (ug/m3)	DETECT LIMIT (ug/Sample)
			PRE POST	ON OFF	TOTAL (min)									
12-20-01	P	Luis Hernandez 314-91-4388 Fine Creamy, exterior	2.1	0715	465	1018.5								
			2.1	1620	545	1144.5								
12-20-02	BC	Blank												
12-20-03	BC	Blank												

COLLECTION: <u>Robert Bensley</u>	ANALYSIS: <u>MNDOH 11082</u>	SAMPLE TYPE LEGEND:	
COLLECTED BY: <u>Robert Bensley</u>	ANALYZED BY: <u>[Signature]</u>	AMB	PERSONAL
ROTOMETER NO: <u>R-29</u>	QA/QC BY: <u>[Signature]</u>	BG	CLEARANCE
FILTER LOT NO: <u>9339718</u>	ANALYTE: <u>Pb</u>	IWA	FIELD BLANK
COLLECTED AND ANALYZED IN ACCORDANCE WITH:		OWA	

AIR => NIOSH 7300 METHOD
 DIGESTION: EPA 3050
 ANALYSIS: EPA 6010
 Other:

TCLP=> DIGESTION: EPA 1311
 ANALYSIS: EPA 6010

WATER=> DIGESTION: EPA 3010
 ANALYSIS: EPA 6010



CLIENT: CAPE Environmental
2302 Parklake Drive STE 200
Atlanta, GA 30345
ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9912103
Received: 12/21/1999 2:34:00 PM
Received by: McGuiggan T
Validated: 12/29/1999 4:27:00 PM
Validated by: McGuiggan T
Approved: 12/29/1999 4:27:00 PM
Approved by: McGuiggan T

Client Sample ID: 12-13-01		Collection Date: 12/13/1999			
Azimuth ID: 9912103-01		Media: 37 mm 0.8 µ MCE			
		Sample Volume: 1152.9 Liters			
Test	Method	Detection Limit	Sample Result	Concentration	
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.3ug/m3	

Client Sample ID: 12-13-02		Collection Date: 12/13/1999			
Azimuth ID: 9912103-02		Media: 37 mm 0.8 µ MCE			
		Sample Volume: 0 Liters			
Test	Method	Detection Limit	Sample Result	Concentration	
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3	

Client Sample ID: 12-13-03		Collection Date: 12/13/1999			
Azimuth ID: 9912103-03		Media: 37 mm 0.8 µ MCE			
		Sample Volume: 0 Liters			
Test	Method	Detection Limit	Sample Result	Concentration	
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3	

Client Sample ID: 12-14-01		Collection Date: 12/14/1999		
Azimuth ID: 9912103-04		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 861 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<5.8ug/m3

Client Sample ID: 12-14-02		Collection Date: 12/14/1999		
Azimuth ID: 9912103-05		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-14-03		Collection Date: 12/14/1999		
Azimuth ID: 9912103-06		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-15-01		Collection Date: 12/15/1999		
Azimuth ID: 9912103-07		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 1022.7 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.9ug/m3

Client Sample ID: 12-15-02		Collection Date: 12/15/1999		
Azimuth ID: 9912103-08		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-15-03		Collection Date: 12/15/1999		
Azimuth ID: 9912103-09		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-16-01		Collection Date: 12/16/1999		
Azimuth ID: 9912103-10		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1134 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.4 ug/m3

Client Sample ID: 12-16-02		Collection Date: 12/16/1999		
Azimuth ID: 9912103-11		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-16-03		Collection Date: 12/16/1999		
Azimuth ID: 9912103-12		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-20-01		Collection Date: 12/20/1999		
Azimuth ID: 9912103-13		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1144.5 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	<4.4 ug/m3

Client Sample ID: 12-20-02		Collection Date: 12/20/1999		
Azimuth ID: 9912103-14		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-20-03		Collection Date: 12/20/1999		
Azimuth ID: 9912103-15		Media: 37 mm 0.8 μ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	mNIOSH 7082	0.5 mg/L	<5 ug	NAug/m3

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

The volumes for samples 12-15-01, 12-16-01 and 12-20-01 were adjusted based on the times and flow rates provided on Lead Field Form.

Final Approval: Douglas McGuggen, Lab Manager

Date: December 29, 1999



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9912110
Received: 12/22/1999 1:12:00 PM
Received by: McGuiggan T
Validated: 01/07/2000 4:17:00 PM
Validated by: McGuiggan T
Approved: 01/07/2000 4:17:00 PM
Approved by: McGuiggan T

Client Sample ID: 12-21-01		Collection Date: 12/21/1999		
Azimuth ID: 9912110-01		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 1029 Liters		
st	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	NIOSH 7300	0.5 mg/L	<5 ug	<4.9ug/m3

Client Sample ID: 12-21-02		Collection Date: 12/21/1999		
Azimuth ID: 9912110-02		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	NIOSH 7300	0.5 mg/L	<5 ug	NAug/m3

Client Sample ID: 12-21-03		Collection Date: 12/21/1999		
Azimuth ID: 9912110-03		Media: 37 mm 0.8 µ MCE		
		Sample Volume: 0 Liters		
Test	Method	Detection Limit	Sample Result	Concentration
Lead (Filter)	NIOSH 7300	0.5 mg/L	<5 ug	NAug/m3

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Final Approval: Sonya McGuigan, Lab manager

Date: January 9, 2000



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAPE Environmental
 Address 2302 PARKLINE DR
ATLANTA GA

Special requests:
 Verbal results cecc Carol.net
 Fax report _____
 Fax # 770-908-7200
 Results needed by: 5 day

Project No. <u>90033.103</u>	Sample Type <u>Lead in Air</u>	# of Samples <u>3</u>	P.O.
Contact Name <u>Robert Beasley</u>	Phone No.	Date Shipped <u>12-22-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	<u>12-21-01</u>	<u>1029. L</u>	<u>12-21-99</u>	<u>B7mm</u>	<u>Lead in Air</u>
	<u>12-21-02</u>	<u>N/A</u>	<u>N</u>	<u>N</u>	<u>N</u>
	<u>12-21-03</u>	<u>N/A</u>	<u>N</u>	<u>N</u>	<u>N</u>

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u> Date/Time <u>12-22-99</u>	Received by: <u>[Signature]</u> Date/Time _____
	Relinquished by: _____ Date/Time _____	Received at Lab by: <u>[Signature]</u> Date/Time <u>12/22/99/SC</u>
	Method of Shipment: _____	Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)
Authorized by: <u>[Signature]</u> Date <u>12-22-99</u>		
(Client Signature Must Accompany Request)		

Appendix B
Results of
Water Sample Analysis



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAPE Environmental
 Address 2302 Parkland Dr.
ATLANTA GA

Special requests:
 Verbal results aec@carol.net
 Fax report _____
 Fax # _____
 Results needed by: _____

Project No. <u>90033.103</u>	Sample Type <u>WATER</u>	# of Samples <u>3</u>	P.O.
Contact Name <u>ROBERT M. BENSLEY</u>	Phone No.	Date Shipped <u>12-22-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	<u>#1 Unit B</u>	<u>N/A</u>	<u>12-22-99</u>	<u>WATER</u>	<u>Lead in WATER</u>
	<u>#2 Unit J,</u>	<u>N</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>
	<u>#3 Unit B</u>				

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u> <u>1130</u>	Date/Time: <u>12-22-99</u>	Received by: <u>[Signature]</u>	Date/Time: _____
	Relinquished by: _____	Date/Time: _____	Received at Lab by: <u>[Signature]</u>	Date/Time: <u>12/22/99</u>
	Method of Shipment: _____		Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)	
Authorized by: <u>[Signature]</u>		Date <u>12-22-99</u>		
(Client Signature Must Accompany Request)				



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
 ATTN.: Robert Beasley

Workorder: 9912113
 Received: 12/22/1999 1:12:00 PM
 Received by: McGuigan T
 Validated: 01/19/2000 12:10:00 PM
 Validated by: Pfaff J
 Approved: 01/19/2000 12:11:00 PM
 Approved by: Pfaff J

Project Info: 90033.103

Purchase Ord:

Client Sample ID: #1 Unit B		Collection Date: 12/22/1999
Azimuth ID: 9912113-01		
Test	Method	Sample Result
Lead in Water	EPA 239.2	6.0 mg/L

Client Sample ID: #2 Unit J		Collection Date: 12/22/1999
Azimuth ID: 9912113-02		
Test	Method	Sample Result
Lead in Water	EPA 239.2	6.19 mg/L

Client Sample ID: #3 Unit B		Collection Date: 12/22/1999
Azimuth ID: 9912113-03		
Test	Method	Sample Result
Lead in Water	EPA 239.2	6.21 mg/L

Director of Laboratories: Richard D. Bennett, MSPH CIH

AlHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Detection limit: 0.50mg/L

Final Approval: Jonny McGuigan, Lab Manager

Date: January 20, 2000

Appendix C

Results of Dust Wipes and Soil Samples



azimuth
LABORATORIES

UNIT J

Test Request Form

A Division of Azimuth, Incorporated
9229 University Blvd.
Charleston, SC 29406
(800) 968-3565 Fax (843) 569-8792

Name CAPE Environmental
Address 2302 PARKLONE Drive
ATLANTA GA

Special requests: NECC CALO.net
Verbal results 843-829746
Fax report 843-744-1230
Fax # 770-908-7219
Results needed by: 24 hrs

Project No. <u>90033.103</u>	Sample Type <u>DUST</u>	# of Samples <u>11</u>	P.O.
Contact Name <u>ROBERT BEESKY</u>	Phone No. <u>744-1230</u>	Date Shipped <u>11-18-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
/	1		11-18-99	Dust Wipe	DUST(lead)
/	2				
/	3				
/	4				
/	5				
/	6				
/	7				
/	8				
/	9				
/	10				
/	11				

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u> ¹²⁰⁰ Date/Time <u>11-18-99</u>	Received by: <u>[Signature]</u> Date/Time
	Relinquished by: _____ Date/Time	Received at Lab by: <u>[Signature]</u> Date/Time <u>11/18/99 10:00</u>
	Method of Shipment:	Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)
Authorized by: <u>[Signature]</u> Date <u>11-18-99</u>	(Client Signature Must Accompany Request)	

Chapter 15: Clearance

Form 15.2

Lead Hazard Control Clearance Dust Sampling Form (Single-Surface Sampling)

Date 11-18-99

Name of clearance examiner Robert Bensky

License no. (if applicable) Georgia Institute of Technology (Cert. #) (# 491, # 946)

Name of property owner Southern Division

Property address _____ Apt. no. _____

Clearance categories:

1. Interior treatments without containment.
2. Interior treatments with containment.
3. Exterior work on painted surfaces.
4. Routine maintenance.
5. Soil work.

Sample number	Room number or Identifier	Surface type (floor, interior window sill, window trough)	Clearance category number	Dimensions of sample area (Inches)	Area (ft ²) (can be completed by lab)	Result of lab analysis (µg/ft ²) (can be completed by lab)	Pass or Fail
10	Blank				0.000		
11	Blank				0.000		

Total number of samples on this page 2

Page 2 of 2

Date of sample collection 11/18/99 Date shipped to lab 11/18/99

Shipped by [Signature] (Signature) Received by [Signature] (Signature)



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9911094
Received: 11/18/1999 10:44:00 AM
Received by: Pfaff J
Validated: 11/19/1999 9:36:00 AM
Validated by: Pfaff J
Approved: 11/19/1999 9:36:00 AM
Approved by: Pfaff J

Client Sample ID: 1		Collection Date: 11/18/1999		
Azimuth ID: 9911094-01		Media: wipe		
		Sample Area: 1 Ft2		
st	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	74 ug	74 ug/Ft2

Client Sample ID: 2		Collection Date: 11/18/1999		
Azimuth ID: 9911094-02		Media: wipe		
		Sample Area: 1.896 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	33 ug	17 ug/Ft2

Client Sample ID: 3		Collection Date: 11/18/1999		
Azimuth ID: 9911094-03		Media: wipe		
		Sample Area: .802 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<31 ug/Ft2

Client Sample ID: 4		Collection Date: 11/18/1999		
Azimuth ID: 9911094-04		Media: wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: 5		Collection Date: 11/18/1999		
Azimuth ID: 9911094-05		Media: wipe		
		Sample Area: 2.167 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<12 ug/Ft2

Client Sample ID: 6		Collection Date: 11/18/1999		
Azimuth ID: 9911094-06		Media: wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: 7		Collection Date: 11/18/1999		
Azimuth ID: 9911094-07		Media: wipe		
		Sample Area: .972 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	42 ug	43 ug/Ft2

Client Sample ID: 8		Collection Date: 11/18/1999		
Azimuth ID: 9911094-08		Media: wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: 9		Collection Date: 11/18/1999		
Azimuth ID: 9911094-09		Media: wipe		
		Sample Area: 1 Ft ²		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft ²

Client Sample ID: 10		Collection Date: 11/18/1999		
Azimuth ID: 9911094-10		Media: wipe		
		Sample Area: 0 Ft ²		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	NA ug/Ft ²

Client Sample ID: 11		Collection Date: 11/18/1999		
Azimuth ID: 9911094-11		Media: wipe		
		Sample Area: 0 Ft ²		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	NA ug/Ft ²

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624 NY State ELAP Lab No. 11052 ELLAP Laboratory ID Number: 100624

The wipes did not digest into solution well, thus sample loss may have occurred.

Final Approval: Deug McGiggan, Lab manager

Date: November 19, 1999



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAPE Environmental
 Address 2302 PARKLANE DR.
ATLANTA GA

Special requests:
 Verbal results YES
 Fax report 744-1230
 Fax # 744-1230
 Results needed by: 29th Nov
3 day

Project No. 90033.003 Sample Type SOIL # of Samples 1 P.O. 1
 Contact Name ROBERT BEASLY Phone No. 744-1230 Date Shipped 11-17-99
 Special Instructions / Unusual Conditions / Possible Interferences:
3 day turnaround - Report Results in PPM.

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	✓ S11-15-01 5 subsamples from Driveway GARAGE #1		11-15-99	SOIL	Lead in Soil
	✓ S11-15-02 5 subsamples from Driveway GARAGE #2		11-15-99	SOIL	
	✓ S-11-15-03 MAIN House 5 subsamples from driveway		11-15-99	SOIL	

American Industrial Hygiene Association: Laboratory Accreditation #367

Relinquished by: Robert M Beasly 1500 Date/Time 11-17-99
 Received by: [Signature] Date/Time _____
 Relinquished by: _____ Date/Time _____
 Received at Lab by: [Signature] Date/Time 11/18/99 154C
 Method of Shipment: _____ Sample Condition Upon Receipt: Acceptable Other (explain)
 Authorized by: _____ Date _____
 (Client Signature Must Accompany Request)



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
 ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9911089
 Received: 11/18/1999 7:55:00 AM
 Received by: Pfaff J
 Validated: 11/23/1999 1:44:00 PM
 Validated by: Pfaff J
 Approved: 11/23/1999 1:44:00 PM
 Approved by: Pfaff J

Client Sample ID: S11-15-01		Collection Date: 11/15/1999
Azimuth ID: 9911089-01		
Test	Method	Sample Result
Lead	mNIOSH 7082	550 ppm

Client Sample ID: S11-15-02		Collection Date: 11/15/1999
Azimuth ID: 9911089-02		
Test	Method	Sample Result
Lead	mNIOSH 7082	1200 ppm

Client Sample ID: S-11-15-03		Collection Date: 11/15/1999
Azimuth ID: 9911089-03		
Test	Method	Sample Result
Lead	mNIOSH 7082	270 ppm

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Detection Limit - 0.5 mg/L

Final Approval: 

Date: 11/29/99



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

Test Request Form

Name CAPE Environmental
 Address 2302 Park Lane Drive
ATLANTA GA

Special requests: AEC@Carol.net
 Verbal results 864-888-9746
 Fax report 843-744-1230
 Fax # 770-908-7219
 Results needed by: 24HRS

Project No. <u>90033.103</u>	Sample Type <u>SOIL</u>	# of Samples <u>1</u>	P.O.
Contact Name <u>ROBERT BEASLY</u>	Phone No. <u>744-1230</u>	Date Shipped <u>11-18-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	<u>S-1</u>		<u>11-18-99</u>	<u>SOIL</u>	<u>Dust (conc)</u>

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u>	Date/Time: <u>11/18/99</u>	Received by: <u>[Signature]</u>	Date/Time: <u>11/18/99</u>
	Relinquished by:	Date/Time:	Received at Lab by: <u>[Signature]</u>	Date/Time: <u>11/18/99</u>
	Method of Shipment:		Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)	
Authorized by: _____		Date: _____		
(Client Signature <u>Must</u> Accompany Request)				

Chapter 15: Clearance

Form 15.3

Lead Hazard Control Clearance Soil Sampling Form (Composite Sampling Only)

Date 11-18-99
 Name of clearance examiner ROBERT BEASLEY
 License no. (if applicable) GEORGIA INSTITUTE OF TECHNOLOGY (491,046)
 Name of property owner SOUTHERN DIVISION
 Property address 311 NAVY WAY Apt. no.

Sample number	Location	Bare or covered	Lab result (µg/g)
	building perimeter		
	building perimeter		
S-1*	See Map*	BARE	
S-2*	↓	Covered	
S-3*	↓	Covered	
S-4*	↓	Bare	
S-5*	↓	Bare	
Samples 1 thru 5 Submitted to LABORATORY as One Composite Sample			

Sketch soil sampling plot plan. Collect only the top 1/2" of soil.

Total number of samples on this page 1

Page 1 of 1

Date of sample collection 11/18/99 Date shipped to lab 11/18/99

Shipped by Robert Beasley Received by Dr. M. C. Cullen
 (Signature) (Signature)



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
 ATTN.: Robert Beasley

Workorder: 9911093
 Received: 11/18/1999 10:39:00 AM
 Received by: Pfaff J
 Validated: 11/22/1999 9:56:00 AM
 Validated by: Pfaff J
 Approved: 11/22/1999 9:56:00 AM
 Approved by: Pfaff J

Project Info: 90033.103

Purchase Ord:

Client Sample ID: S-1		Collection Date: 11/18/1999
Azimuth ID: 9911093-01		
Test	Method	Sample Result
ad	mNIOSH 7082	0.0976 % by wt

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Detection Limit - 0.50 mg/L

Final Approval: 

Date: 11/29/99



A Division of Azimuth, Incorporated
 9229 University Blvd.
 Charleston, SC 29406
 (800) 968-3565 Fax (843) 569-8792

pg 1800577-7468
 p.m 2547407

Test Request Form

Name CODE Environmental
 Address NTCANTA GA

Special requests:
 Verbal results aecc@cnol.net
 Fax report 770-908-7200
 Fax # _____
 Results needed by: 24 HRS

Project No. <u>90033.103</u>	Sample Type <u>Dust Wipes</u>	# of Samples <u>10</u>	P.O.
Contact Name <u>ROBERT BEASLEY</u>	Phone No. <u>864-882-9746</u>	Date Shipped <u>12-22-99</u>	

Special Instructions / Unusual Conditions / Possible Interferences:

Housing Unit B

Lab Use Only	Sample Number or Area	Sample Volume or Time	Date Sampled	Media Type	Analysis Requested
	#1 Floor, Hall 1	12" x 12" 1.000	12-22-99	wipe	Lead
	#2 Sill, Rm #2	37" x 2 1/4" 0.578	[Handwritten scribble]	[Handwritten scribble]	[Handwritten scribble]
	#3 Trough, Rm #6	27" x 4 3/4" 0.891			
	#4 Floor, KITCH.	12" x 12" 1.000			
	#5 Floor, Rm #6	12" x 12" 1.000			
	#6 Sill, ^{2nd Floor} Rm 3	37" x 2 1/4" 0.578			
	#7 Trough, ^{2nd Floor} Rm 1	27" x 4 3/4" 0.891			
✓	#8 Floor, ^{2nd Floor} Rm 1	12" x 12" 1.000			
✓	#9 Blank	n/a 0.000			
✓	#10 Blank	n/a 0.000			

American Industrial Hygiene Association: Laboratory Accreditation #367

CHAIN OF CUSTODY	Relinquished by: <u>[Signature]</u> 1140	Date/Time: <u>12-22-99</u>	Received by: <u>[Signature]</u>	Date/Time: _____
	Relinquished by: _____	Date/Time: _____	Received at Lab by: <u>[Signature]</u>	Date/Time: <u>12/21/99/116</u>
	Method of Shipment: _____		Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain)	
Authorized by: <u>[Signature]</u>		Date: <u>12-22-99</u>		

(Client Signature Must Accompany Request)



CLIENT: CAPE Environmental
2302 Parklake Drive STE 200
Atlanta, GA 30345
ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9912111
Received: 12/22/1999 1:12:00 PM
Received by: McGuiggan T
Validated: 12/29/1999 4:23:00 PM
Validated by: McGuiggan T
Approved: 12/29/1999 4:23:00 PM
Approved by: McGuiggan T

Client Sample ID: #1 Floor, Hall 1		Collection Date: 12/22/1999		
Azimuth ID: 9912111-01		Media: Baby Wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: #2 Sill, Rm #2		Collection Date: 12/22/1999		
Azimuth ID: 9912111-02		Media: Baby Wipe		
		Sample Area: .578 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<43 ug/Ft2

Client Sample ID: #3 Trough, Rm #6		Collection Date: 12/22/1999		
Azimuth ID: 9912111-03		Media: Baby Wipe		
		Sample Area: .891 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	27 ug	30 ug/Ft2

Client Sample ID: #4 Floor, Kitch.		Collection Date: 12/22/1999		
Azimuth ID: 9912111-04		Media: Baby Wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: #5 Floor (Rm 1)		Collection Date: 12/22/1999		
Azimuth ID: 9912111-05		Media: Baby Wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: #6 Sill, 2nd Floor,Rm 3		Collection Date: 12/22/1999		
Azimuth ID: 9912111-06		Media: Baby Wipe		
		Sample Area: .578 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	39 ug	67 ug/Ft2

Client Sample ID: #7 Trough, 2nd Floor Rm 1		Collection Date: 12/22/1999		
Azimuth ID: 9912111-07		Media: Baby Wipe		
		Sample Area: .891 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<28 ug/Ft2

Client Sample ID: #8 Floor, 2nd Floor Rm 1		Collection Date: 12/22/1999		
Azimuth ID: 9912111-08		Media: Baby Wipe		
		Sample Area: 1 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	<25 ug/Ft2

Client Sample ID: #9 Blank		Collection Date: 12/22/1999		
Azimuth ID: 9912111-09		Media: Baby Wipe		
		Sample Area: 0 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	NAug/Ft2

Client Sample ID: #10 Blank		Collection Date: 12/22/1999		
Azimuth ID: 9912111-10		Media: Baby Wipe		
		Sample Area: 0 Ft2		
Test	Method	Detection Limit	Sample Result	Concentration
Lead Wipe	mNIOSH 7082	0.5 mg/L	<25 ug	NAug/Ft2

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Samples did not fully digest and go into solution; therefore, sample loss may have occurred.

Final Approval: Danya McGuggan, Lab Manager

Date: December 29, 1999



CLIENT: CAPE Environmental
2302 Parklake Drive STE 200
Atlanta, GA 30345
ATTN.: Robert Beasley

Workorder: 9912112
Received: 12/22/1999 1:12:00 PM
Received by: McGuiggan T
Validated: 12/30/1999 1:49:00 PM
Validated by: Pfaff J
Approved: 12/30/1999 1:49:00 PM
Approved by: Pfaff J

Project Info: 90033.103

Purchase Ord:

Client Sample ID: #1-Garage #1		Collection Date: 12/15/1999
Azimuth ID: 9912112-01		
Test	Method	Sample Result
ad	mNIOSH 7082	0.0607 % by wt

Client Sample ID: #2 Garage #2		Collection Date: 12/15/1999
Azimuth ID: 9912112-02		
Test	Method	Sample Result
Lead	mNIOSH 7082	0.2870 % by wt

Client Sample ID: #3 House		Collection Date: 12/15/1999
Azimuth ID: 9912112-03		
Test	Method	Sample Result
Lead	mNIOSH 7082	0.0529 % by wt

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Detection limit: 0.50mg/L

Final Approval: *Donna McGuiggan, Lab Manager*

Date: *January 3, 2000*



SOIL

CLIENT: CAPE Environmental
2302 Parklake Drive STE 200
Atlanta, GA 30345
ATTN.: Robert Beasley/J. Shannon

Workorder: 0001018
Received: 01/10/2000 8:19:00 AM
Received by: McGuiggan T
Validated: 01/12/2000 3:27:00 PM
Validated by: McGuiggan T
Approved: 01/12/2000 3:27:00 PM
Approved by: McGuiggan T

Project Info: 90013.010

Purchase Ord:

Client Sample ID: Garage #2 Housing Unit B		Collection Date: 01/08/2000
Azimuth ID: 0001018-01		
Test	Method	Sample Result
Lead	mNIOSH 7082	0.1054 % by wt

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Detection limit: 0.50mg/L

Final Approval: Donya McGuiggan, Lab Manager

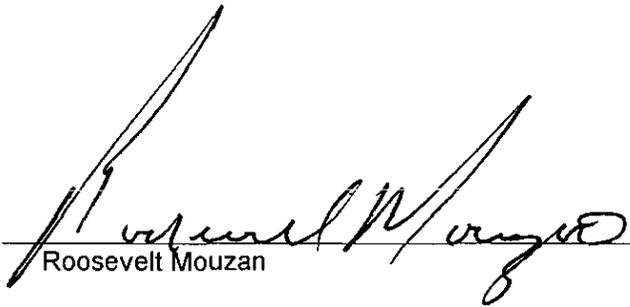
Date: January 12, 2000

HUD Lead in Drinking Water

Samples were analyzed by Graphite Furnace Atomic Absorption Spectrometry in accordance with EPA Method 239.2.

Values reported as less than (<) indicate that the amount of analyte present was below the established reporting limit.

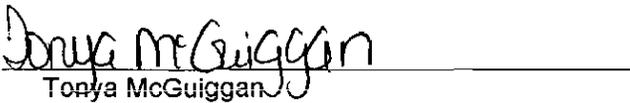
Analyst:


Roosevelt Mouzan

Date:

1-18-00

Reviewer:


Tonya McGuiggan

Date:

1/18/00

Appendix D

**Results of
TCLP Samples**



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

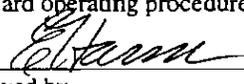
Client Sample ID: #1 PLASTIC
Sample ID: 20019001
Matrix: Misc Solid
Collect Date: 15-DEC-99
Receive Date: 03-JAN-00
Collector: Client

Project: CAPE00399
Client ID: CAPE001

Parameter	Qualifier	Result	Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP								
<i>TCLP ICP Metals for Solid</i>								
Lead		26.4	mg/l	SW846 6010B	KAR	01/08/00	2135	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.


Reviewed by _____





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

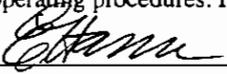
Client Sample ID: #2 SUTS
Sample ID: 20019002
Matrix: Misc Solid
Collect Date: 15-DEC-99
Receive Date: 22-DEC-99
Collector: Client

Project: CAPE00399
Client ID: CAPE001

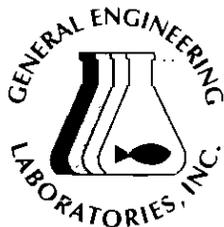
Parameter	Qualifier	Result	Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP								
<i>TCLP ICP Metals for Solid</i>								
Lead		11.9	mg/l	SW846 6010B	KAR	01/08/00	2140	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.

Reviewed by 





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

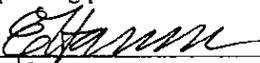
Contact: Mr. Craig Birch
Project: Charleston Naval Base

Client Sample ID: #3 PAINT CHIPS Project: CAPE00399
Sample ID: 20019003 Client ID: CAPE001
Matrix: Misc Solid
Collect Date: 15-DEC-99
Receive Date: 22-DEC-99
Collector: Client

Parameter	Qualifier	Result	Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP								
<i>TCLP ICP Metals for Solid</i>								
Lead		24.4	mg/l	SW846 6010B	KAR	01/08/00	2157	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.

Reviewed by 





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

Client Sample ID:	#4 RAGS	Project:	CAPE00399
Sample ID:	20019004	Client ID:	CAPE001
Matrix:	Misc Solid		
Collect Date:	15-DEC-99		
Receive Date:	22-DEC-99		
Collector:	Client		

Parameter	Qualifier	Result	Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP								
<i>TCLP ICP Metals for Solid</i>								
Lead		37.7	mg/l	SW846 6010B	KAR	01/08/00	2202	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.

Reviewed by 



Appendix E
Daily Field Report
Summaries

CAPE ENVIRONMENTAL MANAGEMENT INC

Job No. _____

Form No. 1 of 1

DAILY PROJECT LOG

Monday - 10/18/99

PROJECT: CHARLESTON HOUSING J & B

PROJECT ADDRESS: 311 NAVY WAY Bldg # 1

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 - 5:30pm FIRST DAY - WE ARE BACK

Today we are unloading the Tractor with materials we will be using on B & J Houses.

We also receive supplies from Remco we also started to do some poly prep on Bldg # 1.

Today we also went to do lead & zinc test. (4 curbers) tomorrow & will do the rest.

We had a safety meeting 7:00am this morning.

Day Ending with no accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/18/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033, 103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 10/19/99

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 to 5:30 Today all workers on time, we
continued poly prep using 6mil
Also other 3 workers went to have blood
lead test and zinc.
Poly prep completed, Decontamination set up
with water heater. Negative Air machines All
Electrical unit with J.F.I. All signs, and
red tape posted around the House.
Body Pan Removal tomorrow.
No accidents.

SIGNED:

[Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE:

10/19/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033 103

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday 10/20/97

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 PM - 5:30 PM 1ST DAY OF LEAD PAINT

REMOVAL. WE ARE USING PEEL AWAY.

WORKERS USING PROTECTIVE DISPOSABLE UNIFORMS, 1/2 FACE RESPIRATOR PROTECTION WITH ORGANIC FILTERS, RUBBER BOOTS, GLOVES, SAFETY GLASS & HEAD HATS.

WE APPLY THE CHROMIUM OXIDE TODAY AND REMOVE THE NEXT DAY. PEEL AWAY NEEDS MORE SKIN & HRS. TO WORKS (AS PREPARED)

NO ACCIDENTS

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/21/97

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Thursday 10/21/99

PROJECT: CHARLESTON HOUSING JRB

PROJECT ADDRESS: 311 NAVY WAY Bldg J

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 to 5:15pm we continue with lead paint re-
moveal. using Perona IV and Fed Army workers
with protective disposable uniforms, y2 piece respirator
with organic filter, rubber gloves & safety glasses.

we remove the lead paint from
door frames and windows. we also will scrape
any base paint from walls and ceiling. Temperature
is below normal. The chemical are not working
100%. we apply more than one time

Day ends with no accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/21/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____

Form No. _____ of _____

DAILY PROJECT LOG

Monday 10/25/99

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 311 NAYLOR WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:30pm All workers on time on Job site.

Today we are having a safety meeting. we talk about ladders, water on the floor, electrical cords, and the use of peel away.

All workers using protective disposable uniforms, safety glasses, 1/2 face respirator with organic filters, gloves and boots.

We continue working on doors, windows frames, we are using Peel Away and Primer II. we are having low temperature, and that does not help. (Peel away needs heat).

No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/25/99

CAPE
ENVIRONMENTAL
MANAGEMENT
L N C

Job No. 170033.103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 10/26/99

PROJECT: CHARLESTON HOUSING J & B

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 am to 1:30 pm. All workers on time on Job site. By 7:15 they already on work area. Doors frames and windows still in process. One side off doors will be completed Friday. And apply on the other side. And we may be able to remove it by Thursday. workers Always using disposable protective uniforms with rubber boots, y2 face respiratory protection using organic filters, safety glass, and gloves.

Another Day No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/26/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____

Form No. _____ of _____

DAILY PROJECT LOG

Thursday 10/20/99

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 311 NAVAUX WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 AM - 5:30 PM All workers on time on sub site. They all using protective disposable uniforms, yellow mask with organic filters, safety glasses, rubber gloves.

We are still working with windows frames and doors frames. All this we are doing inside the home. All door were completed. We are still not having sunny days. We hope that Monday is a better day.

Wes Acordts.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/20/99

CAPE ENVIRONMENTAL MANAGEMENT L N C

Job No. _____

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday 10/27/99

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 311 N. W. 1st St. Bldg. J

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:30pm - workers on job site are fine
 we are still in the process of lead
 paint removal from doors, frames and windows
 we are still very peeling and priming
 today we have 7 working days, but
 only 5 days off removal.
 this house (J) and B. Have a lot
 off lead paint removal to do, more any other
 house that we already did.
 No accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 10/27/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033-003

Form No. 1 of 1

DAILY PROJECT LOG

Monday 1/01/99

PROJECT: CHARLESTON HOUSING JOB

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 to 5:30 Today we are working over
9 days on Bldg J. its not a good Day: to
start working outside. I will have Gyn bag
inside. If it not raining, we will try tomorrow.
we are still working on window Frames and
doors frames. we are using peel away and -
Pirona-IV workers with protective drapo-
sable uniforms, 1/2 face respitme protection with
organic filters, rubber gloves, safety glasses.
Day Ended, No Accident.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 1/01/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 9033.103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 11/02/99

PROJECT: CHARLESTON HOUSING J & B

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:30pm Worker's on time on Job site.

They always using protective disposable uniforms, yr face respire protection, rubber gloves, boots, safety glass.

We have another rainy day, we are not able to work outside.

every body working inside, continues with doors, frames, and windows frame. Still using Peel Away and Prana IV.

Day ended. no Accidents

SIGNED:

[Signature]

PROJECT SUPERINTENDENT/DESIGNEE

DATE:

11/02/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033103

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday 11/03/99

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00^{am} to 5:30^{pm} Another Day with all 7 workers on Job site - finally we have a good day, it is 44^{OF}. Cold. But we are working outside applying Peel Away on windows frames it will be cold for the rest of the week and weekend. ~~It~~ it is a problem, the Peel Away do not work 100%. Door and windows frames they will almost be completed today. Workers always working with safety and protective.

Another Day No Accidents

SIGNED: 
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/03/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____

Form No. _____ of _____

DAILY PROJECT LOG

Thursday 11/04/99

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 311 NAVY WAY

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:30pm Another Day Workers back on time on the job site. Today we are applying peel away on the outside windows frames, and doors, we did not completed on windows we also apply on window screens we also painting the inside doors and windows frames. The loose paint on walls and ceiling are completed. We hope we are able to start removal on outside windows frames on Monday.

Another Day, No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/04/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.03

Form No. 2 of 1

DAILY PROJECT LOG

11/08/99 Monday

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 311 NAVY way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:00 AM} 7:30 One more week workers back

In time on Job site. Using protective
disposable uniforms, 1/2 face negative protection with
organic filters, safety glasses, boots, hard hats, gloves.

We started today to remove the peel away on
window frames on outside, we still painting inside
doors and window frames. The inside of this floor
(C-215) is 80% completed. About 7 window frames
will be completed outside today.

Another Day. No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/08/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 11/07/99

PROJECT: Charleston Housing J&B

PROJECT ADDRESS: 311 Navy Way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7⁰⁰ to ¹⁰5³⁹pm One more Day. worker's Back on job site on time.

We continue with windows frames lead paint removal on the outside. Today another 2 windows frames will be completed. we also cleaning glass windows. we continue painting reaming doors and windows frames. we also setting back doors in place. And started final inside.

Another Day no Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/09/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

11/10/99 - Wednesday

PROJECT: CHARLESTON HOUSING J & B

PROJECT ADDRESS: 311 Navy Way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ~~7:00 AM~~ ^{7:30 AM} TO 5:30 - Today we continue with outside windows frames; we are removing lead paint we also continue with final clean inside; windows glass, taking up poly from the floor painting doors and windows frames. We also cleaning down all walls. Workers using protective disposable uniforms, 1/2 face respirator protection with organic filters, hard hats, boots, safety glasses and gloves.
One more Day. No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/10/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 9033.103

Form No. 1 of 1

DAILY PROJECT LOG

Thursday 1/11/99

PROJECT: Charleston Housing F & B

PROJECT ADDRESS: 311 Navy Way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:30pm Workers with protective disposable uniforms, 1/2 face respirator protection with organic filters, safety glass, boots, gloves and hard hats.

The outside window frames are completed today. And started scraping the loose paint on outside walls. We also painting ABC paint per frames in and outside. The cleaning inside completed today. A/C on windows will be perident to get back Monday or Tuesday. We will start Bldg # B on Monday.

Another Day, No Accidents.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 1/11/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 9003.10.3

Form No. 1 of 1

DAILY PROJECT LOG

11/15/99 Monday

PROJECT: CHARLESTON Housing J & B

PROJECT ADDRESS: 311 Navy Way Bldg # J

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 AM to 5:30 PM. Workers on time on Job site. It was not possible to start Bldg # B today. Because all furniture are still on place. We was told that Everything was gain to be out 11/12/99 (Friday) if not. Bldg B is now 1 day behind. Bldg J. wipe Sample will done tomorrow (ear side) we are painting de outside window frames. Workers with protective disposable uniforms, eye face respiratory protection, gloves, safety glasses, boots, hard hats.

Another day no accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/15/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____
Form No. _____ of _____

DAILY PROJECT LOG

11/16/99 Tuesday

PROJECT: Charleston Hoisting Bldg B

PROJECT ADDRESS: 311 Navy Way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 am to 5:30 pm. Today we are working on Bldg B on the garage. Furniture still inside. Bldg # J completed by the end of the day. Wipe sample will be done tomorrow.

For Bldg J. we use 32 drums, for all bags with lead paint, mix with suits poly.

Garage on Bldg B, completed. we hope furniture will be out tomorrow, we already two days behind today.

No accidents.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/16/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. of 1

DAILY PROJECT LOG

11/17/99 Wednesday

Bldg B

PROJECT: CHARLESTON HOUSING J & B

PROJECT ADDRESS: 200 Navy City (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:39pm We finally About 9:00am the Kernature was take out on Bldg # B we started poly prep with 6mil inside. we have two poly on the floor. we are putting peel away on outside windows. Today, tomorrow and Monday will be only poly prep.

Another Day No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/17/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____

Form No. _____ of _____

DAILY PROJECT LOG

Thursday 4/18/99

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 200 Navy Way Bldg # 13

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 to 5:30pm Workers on time on job site
Poly prep with 6 mil poly outside was completed.

Decor was Bonded with steam filtration system, water heater and air locks. The working Area is ready for full start on Monday. The outside windows frames we are still applying peel away.

Day End No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 4/18/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Monday 11/22/99

Bldg B

PROJECT: Charleston Housing JRB

PROJECT ADDRESS: 200 Navy Way 1

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 9:30am We are in full on Bldg. B. This week we will be working two days off 13.5 hr. and day 13hr. Because this day is holiday, they will be a regular long break. And at 5:00pm we have a 1/2 hr. break. We leave at 9:30pm. Today all windows on outside peel away was apply. we also started removal on first floor windows frames peel away apply. All door inside peel away was apply on first and second floor. We also started lead paint removal on doors frames on second floor, using Piranath. windows frames ~~second~~ floor, peel away applying completed. First floor - doors and windows frames will be completed peel away applying tomorrow.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/22/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.10

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 11/23/99

PROJECT: CHARLESTON HOUSING J & L3

PROJECT ADDRESS: 300 Navy Way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:00am} to ^{9:30am} workers in time on Job site. We
Continued on outside windows frames with
lead paint removal. Inside doors frames
and windows frames, peel out and some
prone to completed with applying. We
also continued, lead paint removal on se-
cond floor on door frames. Workers with dis-
posable protective uniforms, 1/2 face respirator pro-
tection with organic filters, rubber gloves, boots,
safety glasses, and hard hats.

Another Day. No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/23/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Bldg B

Wednesday 11/24/99

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 300 Navy Way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:00 AM} ~~7:00 AM~~ ^{to} ~~9:00 AM~~ ^{9:00 AM} Workers on time.

Another long day. we continued with lead paint removal on outside of window frames, we also already started with inside window frames lead paint removal. we also continued with lead paint removal on door frames, second floor.

workers always using protective clothing disposable. safety glass, rubber gloves, boots, eye face respiratory protection with organic filters.

No accidents

SIGNED: *[Signature]*
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/24/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 9033.103

Form No. 1 of 1

DAILY PROJECT LOG

Monday 11/29/89

PROJECT: CHARLESTOWN HOUSING J & B

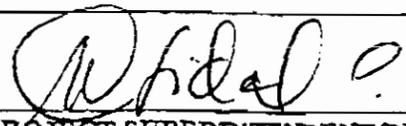
PROJECT ADDRESS: 200 Bealey way Bldg = B

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:00 am} ~~7~~ to ^{5:30 pm} ~~5~~ Another week. We go back to normal hrs. (Schneider). Workers with protective disposable uniforms, 1/2 face respirator protection, safety glasses, rubber gloves, boots, hard hats.

We continue with lead paint removal. Outside window frames, also inside window frames. Doors frames 1st floor on second floor lead paint removal in progress. Door on first floor we already started lead paint removal. We have a nice sunny after noon very good for the peel away.

No Accidents

SIGNED: 
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/29/89

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____

Form No. _____ of _____

DAILY PROJECT LOG

Tuesday 11/30/99

PROJECT: CHARLESTON HOUSING J & B

PROJECT ADDRESS: 200 DAVEY WAY Bldg. A B

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 AM to 6:50 PM

We continue with lead paint removal. Windows frames outside still in progress. Inside first floor windows frames completed. Doors frames first floor two more to be completed.

Second floor, windows frames, and doors frames still in progress. Also the doors we are still working on.

Another Day No Accidents.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 11/30/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 91033.103

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday

PROJECT: Charlesston Housing J & B.

PROJECT ADDRESS: 300 Alony Way - Bldg B

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 1:34pm we are still working on outside window frame, removing lead paint. On the inside windows frames ~~first~~ ^{second} floor completed. Doors frames and Doors also completed.

First floor: windows frames, Doors frames and Door still in process of lead paint removal. We also started removing & scraping base paint from walls on second floor.

Workers Always working with safety
No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/01/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033/103

Form No. 1 of 1

DAILY PROJECT LOG

Thursday 12/02/99

PROJECT: CHARLESTON HOUSING J&B.

PROJECT ADDRESS: 300 Navy Way - Bldg # 13

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 5:30pm. Workers always on time on job site.

We continues Lead paint removal on windows frames on the outside. Also on the inside. Door and window frames lead paint removal completed on second floor. On the first floor: windows frames doors frames and doors lead paint removal still in progress.

Workers always using: protective disposable uniforms, eye face respiratory protection with organic filters, rubber gloves, boots, safety glass.

Day Ends No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/02/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.1a

Form No. 1 of 1

DAILY PROJECT LOG

Monday 12/06/99

PROJECT: CHARLESTONE HOUSING I & B.

PROJECT ADDRESS: 300 WING WING (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 to 5:30 PM Workers back on time on job site. Workers with protective disposable uniforms, 1/2 face respirator protection with organic filters, rubber gloves, boots, safety glasses. All lead paint removed on Door, Frames, windows, frames and doors completed today. We also started to apply the A.B.C. white paint on door frames and windows (second floor). We will start final clean tomorrow.

Another Day
NO Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/06/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 12/07/99

PROJECT: Charleston Housing J & B.
PROJECT ADDRESS: 300 Navy Way Bldg B

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME: 7:00 am to 5:39 pm today we started final cleaning. we also started scraping any loose paint on walls and ceiling on second floor. This week I have only 4 workers. we also continue painting with U.B.C. windows and doors frames. And doors workers always using protective disposable coverings etc.

No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/07/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.105

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday 12/08/99

PROJECT: CHARLESTON HOUSING J & B
PROJECT ADDRESS: 200 Navy Way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am TO 5:30pm One more on Bldg B.
Worker on fire on Job site.
We continue with final clean.
We are still applying white LBC on windows on door and (frames) inside and outside.
At the same time we are scraping any loose paint on walls and ceiling. The side painting with LBC will be completed tomorrow.

No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/08/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. of

DAILY PROJECT LOG

Thursday 12/09/99

PROJECT: CHARLESTONE HOUSING J & B

PROJECT ADDRESS: 300 Navy Way only #B

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 AM to 5:30 We continue with final clean.

and scraping away loose paint on walls, and caulking on the inside. All doors (frames) windows frames are completed painting with L.B.C. white.

We have 8 windows frames to be painted with L.B.C. - white. All bags are put on 90 bags temporary storage.

Another Day No Accidents

SIGNED:



PROJECT SUPERINTENDENT/DESIGNEE

DATE:

Thursday 12/09/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Monday 12/13/99

PROJECT: CHARLESTONE HOUSING J&B

PROJECT ADDRESS: 200 Navy way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ~~7:00am~~ ^{7:30am} to 5:30pm. Worker's Back on Job site.

Another day of final cleaning inside the house. we wiping down walls, cleaning out corners and vacuum carpet. After we pull out ply on floor.

Today is every first day of the week. we had safety meeting, before started working on the outside of the house we have some base paint to scrape. Also 8 window frame to apply L.B.C white paint.

Another day No Accident.

SIGNED:

[Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE:

12/13/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 12-14-99

PROJECT: CHARLESTON HOUSING I & B

PROJECT ADDRESS: 300 NAVY WAY - (B)

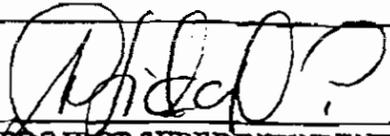
NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:00 am} ~~7:00~~ ^{to 5:30 pm} workers on time on Job site.

We are still in the process off final clean, and scraping any loose paint on ceiling and walls as crew workers are using protective disposable uniforms, ~~eye~~ face respiratory protection, safety glasses, boots, rubber gloves and hard hats.

We another five day before Bldg B is completed.

Another Day
No Accidents

SIGNED: 
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/14/99

CAPE
ENVIRONMENTAL
MANAGEMENT
INC

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday 12/15/99

PROJECT: CHARLESTON HOUSING J&B

PROJECT ADDRESS: 200 Navy way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 AM to 5:00 PM
Another day, workers on fire on job site we continue with final clean, on walls, windows, pull up poly. we also changing all equipments. Tomorrow all work to be done inside will be completed, except Door. They will be put back on Monday.

We also, will start scraping Ann base paint on outside.

Wipe sample will be taken, next Wednesday

Day Ends

No Accidents

SIGNED:

PROJECT SUPERINTENDENT/DESIGNEE

DATE:

12/15/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 96033 103

Form No. 7 of 1

DAILY PROJECT LOG

Thursday 12-14-99

PROJECT: CHARLESTON Hooping J&B

PROJECT ADDRESS: 200 NAVY WAY (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00am to 3:30pm Workers continue with the final clean and scraping any loose paint on walls and ceiling. All ladders and equipment they are cleaning. By next week Wednesday Bldg B, will be completed with lead paint removal and final cleaning.

No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/14/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 12-21-99

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 200 Navy Way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00 AM to 5:30 PM Worker back on Job site on time.

We are still in the process of final clean. We are having wipe sample tomorrow afternoon.

All remaining work on outside is completed tomorrow will be final inside.

Today we started to put in place some soars.

Another Day
No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/21-99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 9003103

Form No. 1 of 1

DAILY PROJECT LOG

Wednesday 12/22/99

PROJECT: Charleston Housing I & B

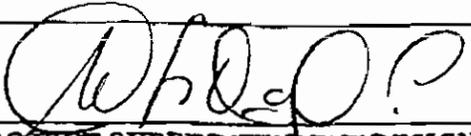
PROJECT ADDRESS: 200 Woy Way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:30am} ~~7:00am~~ to 9:00am. Workers on time on Job Site.

Today is our last day. All door will put back in place, windows frames outside completed with LBC-paint. Decontamination system is out. Negative Air machine clean out and put in the stores room. All final clean completed. Inspection was done by Bob. After wipe sample were taken, on windows and floor, first and second floor. Results from wipe samples, will be back Thursday or Friday.

Next Day on this Project. End NO Accidents.

SIGNED: 
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12/22/99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Monday 12-20-99

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 200 May Way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrences which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:30 AM to 9:30 PM AS Every 1st day of the week we have a safety meeting. The purpose is to Remind everyone they already know to work safe, and the proper use of equipment. We are at the final of the job; we doing the final clean and remove paint at the outside of the house. We also will start to put back in place doors (Wednesday)

All works will be completed on Wednesday.

No Accidents

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 12-20-99

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. of 1

DAILY PROJECT LOG

Monday 1-03-2000

PROJECT: Charleston Housing JCB

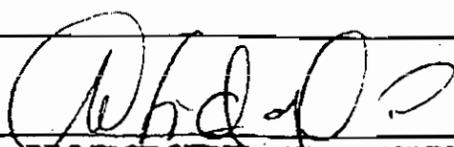
PROJECT ADDRESS: 200 Navy Way (Garage on Bldg B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME 7:00^{am} to 3:30^{pm} Today we are back on Bldg B. Because garage #1 (to be over) the soil sample came out high. We are cleaning 2ft around it with shovel and put in bags.

We will have a second soil sample taken on Friday. By Bob Bandy. We had 3 workers with protective disposable uniforms & face respiratory protection, rubber boots.

We will have sample results next week.

SIGNED: 
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 1-03-2000

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. 90033.103

Form No. 1 of 1

DAILY PROJECT LOG

Tuesday 01-04-2000

PROJECT: Charleston Housing J & B

PROJECT ADDRESS: 200 Navy way (B)

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ~~7:00am~~ ^{7:30am} 7:30am we are back on Bldg B. we are recleaning around the house. per army trace chip lead paint. cleaning 2 ft with stone.

Workers always using disposable protective uniforms with 1/2 face respirator protection

we are working only 8 hrs (3 workers)

Paints on Bldg B. will clean to finish by Friday, inside and outside.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 01/04-2000

CAPE
ENVIRONMENTAL
MANAGEMENT
I N C

Job No. _____
Form No. _____ of _____

DAILY PROJECT LOG

Wednesday 01-05-00

PROJECT: Charleston Housing J&B

PROJECT ADDRESS: 200 Clary way

NOTE: Fill in GENERAL comments on routine progress on this project for the above date. DETAIL major problems and action taken, injuries, equipment breakdown, unusual conditions or situations, inspections, hiring or firing of personnel and any other occurrence which may affect the project. A signature and title must be added following all entries in the log. There shall be no spaces between entries.

TIME ^{7:00 AM} ~~7:00 AM~~ ^{3:30 PM} Today we are on Bldg J.
Cleaning out paint on walls of Bathroom
and clean up again around the house
we also put back soft fence on side
entrance of the house. Also James still
working on punch list, on Bldg J and B.
Another Day No
Accidents.

SIGNED: [Signature]
PROJECT SUPERINTENDENT/DESIGNEE

DATE: 01-05-00

WASTE MANIFEST

NFC5

CAPE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. S.C.O.1-7-0-0-2-2-5-6-0-0-0-2-0-0	Manifest Doc. No. 108363	2. Page 1 of 1
3. Generator's Name and Mailing Address SOUTH DIV. NAVY FAC. ENG. COMMAND CARETAKER'S SITE OFFICE P.O. BOX 190010/2155 EAGLE DR. N. CHARLESTON, SC 29419-9010				
4. Generator's Phone (843) 743-9985	5. Transporter 1 Company Name SOUTHEASTERN RESEARCH		6. US EPA ID Number G.A.R.0-0-0-0-1-7-7-4-9	A. Transporter's Phone (770)412-8275
	7. Transporter 2 Company Name ENVIRO TRANS FREEHOLD CARTAGE		8. US EPA ID Number N.J.D.0-5-4-1-2-6-1-6-4	B. Transporter's Phone (800)458-5229
9. Designated Facility Name and Site Address SOLID WASTE TECHNOLOGIES, INC. 300 SWETT AVENUE AMERICUS, GA 31709		10. US EPA ID Number		C. Facility's Phone (912)928-5148
11. Waste Shipping Name and Description			12. Containers	13. Total Quantity
a. NON-REGULATED SHOWER WATER NON-HAZARDOUS PROFILE APPROVAL: 002000			No. Type	14. Unit Wt/Vol
			6 DM	330 lbs
b.				
c.				
d.				
D. Additional Descriptions for Materials Listed Above FREEHOLD SIGNED AS 2ND TRANSPORTER BLOCK # 7. ENVIRO SIGNED BLOCK # 18			E. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information CONTACT: CHRIS HEINDL, SOLID WASTE TECHNOLOGIES, INC. (678)513-8110 EMERGENCY CONTACT: STEVE BROCK (800)211-9727 002054				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name Lillie D. Frierson		Signature Lillie D. Frierson		Month Day Year 10/21/00
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name J.C. Siveath		Signature J.C. Siveath		Month Day Year 10/21/00
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name LONNIE L GIBBS		Signature Lonnie L Gibbs		Month Day Year 10/21/00
19. Discrepancy Indication Space				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name Orlath Green		Signature Orlath Green		Month Day Year 10/21/00

GENERATOR
TRANSPORTER
FACILITY

SOLID WASTE TECHNOLOGIES INCORPORATED

P. O. Box 409
300 Swett Avenue
Americus, GA 31709

(912) 928-5148
FAX (912) 931-0603

South Div. Navy Fac. Eng. Command
Caretaker's Site Office
P. O. Box 190010
2155 Eagle Dr.
N. Charleston, SC 29419-9010

CERTIFICATE OF DISPOSAL

Solid Waste Technologies has received waste material from

SOUTH DIVISION NAVY FACILITY ENGINEERING COMMAND

described on Generator's Manifest Document Number 03763 and received on

Wednesday, 16 February 00.

<u>Profile</u>	<u>Quantity</u>	<u>Type</u>
002000	6	DM

Solid Waste Technologies hereby certifies that the waste material identified above was received and disposed of in compliance with State and Federal Regulations.

AUTHORIZED SIGNATURE: Kay Hodge DATE: 2/16/00



CLIENT: CAPE Environmental
 2302 Parklake Drive STE 200
 Atlanta, GA 30345
 ATTN.: Robert Beasley

Project Info: 90033.103

Purchase Ord:

Workorder: 9912113
 Received: 12/22/1999 1:12:00 PM
 Received by: McGuigan T
 Validated: 01/19/2000 12:10:00 PM
 Validated by: Pfaff J
 Approved: 01/19/2000 12:11:00 PM
 Approved by: Pfaff J

Client Sample ID: #1 Unit B Azimuth ID: 9912113-01		Collection Date: 12/22/1999
Test	Method	Sample Result
ad in Water	EPA 239.2	6.0 mg/L

Client Sample ID: #2 Unit J Azimuth ID: 9912113-02		Collection Date: 12/22/1999
Test	Method	Sample Result
Lead in Water	EPA 239.2	6.19 mg/L

Client Sample ID: #3 Unit B Azimuth ID: 9912113-03		Collection Date: 12/22/1999
Test	Method	Sample Result
Lead in Water	EPA 239.2	6.21 mg/L

Director of Laboratories: Richard D. Bennett, MSPH CIH

AIHA Laboratory ID Number: 100624

NY State ELAP Lab No. 11052

ELLAP Laboratory ID Number: 100624

Detection limit: 0.50mg/L

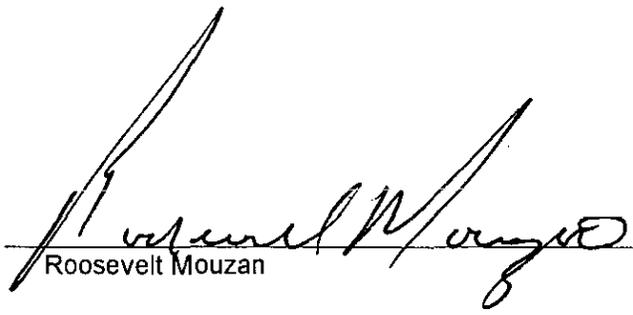
Final Approval: *Joyce McGuigan, Lab Manager*

Date: *January 20, 2000*

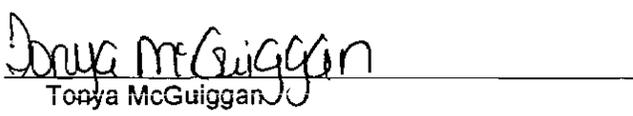
HUD Lead in Drinking Water

Samples were analyzed by Graphite Furnace Atomic Absorption Spectrometry in accordance with EPA Method 239.2.

Values reported as less than (<) indicate that the amount of analyte present was below the established reporting limit.

Analyst: 
Roosevelt Mouzan

Date: 1-18-00

Reviewer: 
Tonya McGuiggan

Date: 1/18/00



DO NOT WRITE IN THIS SPACE
 ATT. DIS. REJ. PR.

Failure to file may subject you to
 criminal and/or civil penalties under
 Sections 324.11151 or 324.12116 MCL

Form Approved: OMB No. 2050-0039

Please print or type.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN, AT 1-800-392-4766 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 24 HOURS PER DAY.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. SC0170022560103164		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address PATN! LILLIE FRIERSON		SOUTH DIV. NAVY FAC. ENG. COMMAND CARETAKER'S SITE OFFICE P.O. BOX 190010/2155 EAGLE DR. N CHARLESTON, SC 29419-9010		A. State Manifest Document Number MI 7114152		B. State Generator's ID	
4. Generator's Phone (843)743-9985		5. Transporter 1 Company Name SOUTHEASTERN RESEARCH		6. US EPA ID Number GAR000017749		C. State Transporter's ID	
7. Transporter 2 Company Name FREEHOLD CARTAGE		8. US EPA ID Number NJD054126164		D. Transporter's Phone (770)412-8275		E. State Transporter's ID	
9. Designated Facility Name and Site Address CHEM-NET SERVICES, INC. 18550 ALLEN ROAD WYANDOTTE, MI 48192		10. US EPA ID Number MTD096963104		F. Transporter's Phone (800)458-5229		G. State Facility's ID	
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER). HM a. X HAZARDOUS WASTE, SOLID, N.O.S. (LEAD) 9. NA3077, PGIII		12. Containers No. Type 108 DM		13. Total Quantity 3240		14. Unit Wt/Vol a	
15. Special Handling Instructions and Additional Information CONTACT: CHRIS HELD, SOLID WASTE TECHNOLOGIES, INC. (678)513-8110		16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.		K. Handling Code D008			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name: Lillie D. Frierson Signature: Lillie D. Frierson Date: 02/21/01		18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name: William Lubder Signature: William Lubder Date: 02/11/01		19. Discrepancy Indication Space			
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. Printed/Typed Name: Steven Spedway Signature: Steven Spedway Date: 02/16							



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

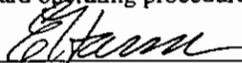
Client Sample ID: #1 PLASTIC
Sample ID: 20019001
Matrix: Misc Solid
Collect Date: 15-DEC-99
Receive Date: 03-JAN-00
Collector: Client

Project: CAPE00399
Client ID: CAPE001

Parameter	Qualifier	Result Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP							
<i>TCLP ICP Metals for Solid</i>							
Lead		26.4 mg/l	SW846 6010B	KAR	01/08/00	2135	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.


Reviewed by



GENERAL ENGINEERING LABORATORIES

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Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

Client Sample ID: #2 SUTTS
Sample ID: 20019002
Matrix: Misc Solid
Collect Date: 15-DEC-99
Receive Date: 22-DEC-99
Collector: Client

Project: CAPE00399
Client ID: CAPE001

Parameter	Qualifier	Result Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP							
<i>TCLP ICP Metals for Solid</i>							
Lead		11.9 mg/l	SW846 6010B	KAR	01/08/00	2140	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.

Reviewed by _____



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

Client Sample ID: #3 PAINT CHIPS
Sample ID: 20019003
Matrix: Misc Solid
Collect Date: 15-DEC-99
Receive Date: 22-DEC-99
Collector: Client

Project: CAPE00399
Client ID: CAPE001

Parameter	Qualifier	Result Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP							
<i>TCLP ICP Metals for Solid</i>							
Lead		24.4 mg/l	SW846 6010B	KAR	01/08/00	2157	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.

Reviewed by 



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Cape Environmental
Management
Address : 2302 Parklake Drive, NE
Atlanta, GA 30345

Report Date: January 18, 2000

Page 1 of 1

Contact: Mr. Craig Birch
Project: Charleston Naval Base

Client Sample ID:	#4 RAGS	Project: CAPE00399
Sample ID:	20019004	Client ID: CAPE001
Matrix:	Misc Solid	
Collect Date:	15-DEC-99	
Receive Date:	22-DEC-99	
Collector:	Client	

Parameter	Qualifier	Result Units	Method	Analyst	Date	Time	Batch
Metals Analysis-ICP							
<i>TCLP ICP Metals for Solid</i>							
Lead		37.7 mg/l	SW846 6010B	KAR	01/08/00	2202	6039

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Elise Hanson at 843-556-8171 Ext. 4409.

Reviewed by 